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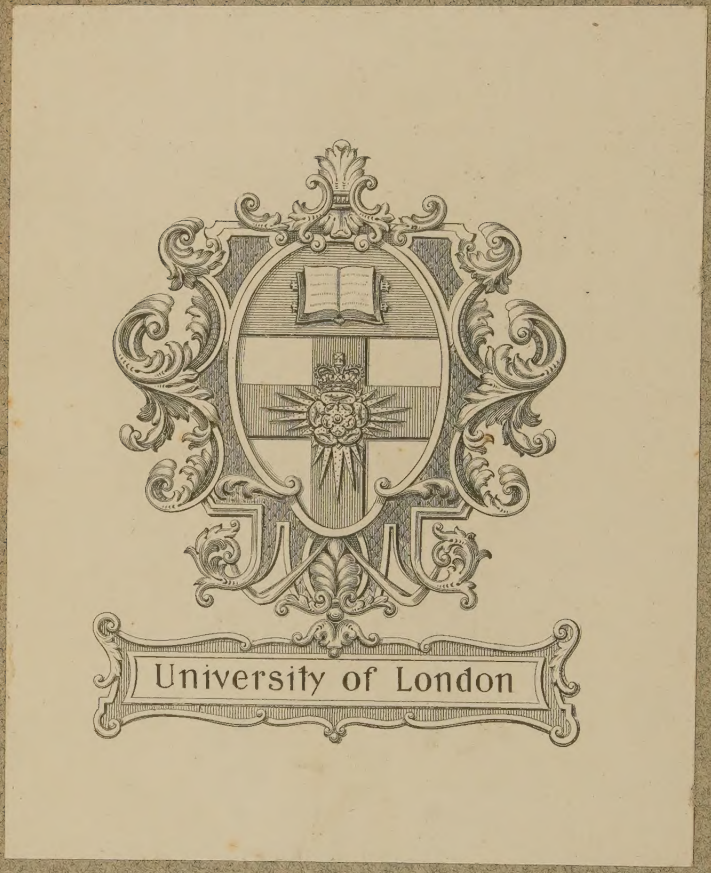

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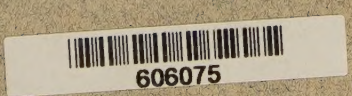
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ACCOUNTS AND PAPERS:

THIRTY-EIGHT VOLUMES.

—*(32.)*—

MANUFACTURES, COMMERCE, &c.,
REPORTS OF
SECRETARIES OF EMBASSY AND LEGATION—*continued*;
COAL; INDUSTRIAL QUESTIONS AND TRADES UNIONS;
AGRICULTURAL EXHIBITIONS.

Session

5 February —— 21 *August* 1867

VOL. LXX.

THIRTY-EIGHT VOLUMES:—CONTENTS OF THE

THIRTY-SECOND VOLUME.

N.B.—*THE* Figures *at the* beginning of the line, *correspond with the* N° *at the foot of each* Paper; *and the* Figures *at the* end of the line, *refer to the* MS. Paging *of the Volumes arranged for The House of Commons.*

Manufactures, Commerce, &c., Reports of Secretaries of Embassy and Legation—*continued*:

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REPORTS

BY

HER MAJESTY'S SECRETARIES

OF

EMBASSY AND LEGATION,

ON THE

MANUFACTURES, COMMERCE, &c.,

OF THE

COUNTRIES IN WHICH THEY RESIDE.

Presented to both Houses of Parliament by Command of Her Majesty.
July 1867.

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Netherlands.

Report by Mr. Thurlow, Second Secretary at the Hague, on the "Waterstaat" of the Netherlands.

The Hague, April 10, 1867.

THE actual kingdom of the Netherlands is composed of the following eleven Provinces:—

* Friesland,
* Groningen,
Drenthe,
* Overyssel,
* Guelderland,
* Utrecht,
* North Holland,
* South Holland,
* Zeeland,
North Brabant,
Limburg.

Omission of Luxemburg.—The Duchy of Luxemburg, though an appanage of the House of Orange, cannot, either geographically or ethnographically, be said to belong to the Low Countries, from which it is entirely isolated, lying far inland, surrounded by France, Germany, and Belgium; and, under these circumstances, this Duchy will not call for any observations in the course of the present study.

Of the eleven Provinces above mentioned, the eight marked with an asterisk abut more or less upon the "outer waters" of the German Ocean, and combine in their conditions of existence the double danger of submersion from the "inner" and the "outer" waters—*i. e.*, from the drainage of the higher lands of Central Europe and from the inroads of the open sea; of which two evils the former is most dreaded, being strangely, as it will be later shown, more entirely beyond the power of man to keep within control.

Constructionist and Destructionist Schools.—The physical

formation of the Netherlands, as a subject of much interest to the Dutch themselves, has received a large share of the attention of their learned and scientific men. Two schools have thus been founded; one of which maintains that the Netherlands have been abandoned by the sea to man by the very gradual upheaving of the land, and the deposit among the sandbanks, as they emerged from their watery cradles of slime and soil, borne down through the lapse of countless ages by the Rhine, the Meuse, and the Scheldt. The second school, whose tenets appear to be less upheld by science, pretend that the elements have, through many centuries, been endeavouring to regain possession of the Netherlands; that the sandy soil has been constantly washed and blown away, and buried in the depths of the German Ocean; and that the bare existence of the Netherlands of to-day is only due to the mastery of mankind over matter.

Both these doctrines, diametrically opposed to one another as they are, may, however, be applied to certain portions of the country under discussion; for no less surely do the hands of man, by building dykes, exclude the stormy waters of the Zuyder Zee from overriding the rich pastures of Friesland, Groningen, and Utrecht, than do the "dunes," or downs of sand, thrown up by the sea along the coast-line of North and South Holland, keep at bay the tempest-tossed waves of the German Ocean, as they lash in vain fury a breakwater of their own formation.

The two schools above referred to are known as "Constructionists" and "Destructionists." Both adduce arguments and examples in support of their respective theories. The first point with pride to what has been termed the Archipelago of Zeeland, or "Sea-land"—"a region outcast of ocean and earth," which "the slow process of nature," backed by "the untiring industry of man," has transformed from floating quicksands into rich alluvial grain, fruit, and flower-bearing plains. These islands were quite unknown to the ancients; and this fact, when taken by the side of the careful geographical descriptions handed down to us by Pliny and Tacitus, tends to prove that, if existing in their time, they must at least have been uninhabited. The earliest authentic records of them describe "the spongy land as rendered almost uninhabitable by the frequent overflow of numerous rivers when forced back upon their currents by the stormy sea. Here,

within a half-submerged territory, a race of wretched ichthyophagi dwelt upon 'terpen,' or mounds, which they had raised like beavers above the almost-fluid soil;" and "here it was that, at a later day, the same race chained the tyrant ocean and his mighty streams into subserviency, forcing them to fertilize, to render commodious, and to cover with a beneficent network of veins and arteries, a country disinherited by nature of its rights." This Province has adopted, as its national crest, a lion rising out of the sea, with the appropriate motto, "Luctor et emergo."

The destructionists, on the other hand, derive a gloomy satisfaction from the contemplation of the ravages of the relentless penetrating ocean. The season of the spring tides is naturally the one that a sad experience has taught the coast inhabitants of the Netherlands to watch with annual anxiety; and if, as often happens, the spring-tides have been preceded by a long continuance of south and north-westerly winds, their anxiety is not unfrequently succeeded by despair.

Dangers from the "outer waters."—South-westerly gales, acting on the surface of the Atlantic, drive an accumulation of waters round the north of Scotland into the German Ocean, where, encountering northerly winds, the sea is propelled with great violence through the British Channel, in search of its original level in the Atlantic.

The Straits of Dover being, however, too narrow to carry off the waters as rapidly as they accumulate, they fall back, and pile themselves up against the coast of Holland. Then the weight of the "broad ocean leans against the land," and the preservation or submersion of the latter is at such times entirely dependent on the solidity and powers of resistance of the sea-walls or dykes.

On these and similar occasions the alarm-bell sounds in every fishing village and coast hamlet, and every human being, capable of bearing aid in strengthening or heightening the dykes by the application of hurdles, sails, and whatever is most ready to hand, is forcibly impressed in what is literally the service of the State.

This race in the erection of an embankment against the rising tide is frequently continued through many midnight hours, along a length of many leagues of quaking dykes, by men, women, and children; and relief to their anxiety and labours only dates from the happy moment

when the ocean tide begins to ebb again, and they acquire an undisturbed repose of some few hours to gird themselves for a renewal of their struggle with the elements.

Inundations from the Sea.—It is in the above combination of wind and tide that past disastrous inundations from the sea have had their origin; and it is to them that has been due successively the submersion of fertile provinces, now represented on the map by the stormy waters of the Dollart and the Zuyder Zee.

The history of the submersion of the former has been accurately preserved. It was in the spring of the year 1277 that the piled-up waters of the German Ocean broke their barriers to the north of the Province of Groningen, and converted the smiling, fertile delta of the River Ems into a watery waste, which the Dutch have christened "the Furious," or Dollart.

Similar catastrophes, on a greater or a smaller scale, all well authenticated, occurred in the years A.D. 533, 792, 806, 839, 1164, 1170, 1205, 1210, 1221, 1230, 1237, 1248, 1249, 1250, 1257, 1277, 1282, 1287, 1300, 1336, 1400, 1421, 1429, 1500, 1507, 1516, 1524 (in which year three inundations occurred), 1530, 1532, 1559, 1570, 1584 (on November 1 of this year some of the highest ground in Friesland was submerged, and over 100,000 persons lost their lives), 1591, 1647, 1649, and 1687. In this year the Spanish Governor Robles introduced an improved method of dyke construction; yet notwithstanding the erection of more efficient barriers against an ever-watchful and invulnerable enemy, fearful inundations of the sea are recorded for the years 1591, 1610, 1647, 1649, 1675, 1687, 1717, 1776, and 1825.

To the inroads of the sea, above recorded in the twelfth and thirteenth centuries, was due the gradual formation of the Zuyder Zee; a destructive work of vast magnitude, conducted by the hand of nature with most relentless energy and precision. No terrestrial convulsion came to the aid of the "outer waters" in the execution of their design; it was accomplished in the course of a century and a half, in a laborious, patient kind of way, and Texel, Vlieland, Ter Schelling, Ameland and Schiermonik, isolated continuations of the "dunes," or "narrow rope of sand," which constitutes the sole natural defence of Holland against the ocean, are all that now remain to mark the actual limits of these vast submersions.

Such are the dangers by which the existence of the Netherlands is daily threatened from irruptions of the "outer waters," or the sea. It is but necessary that a tide should rise one inch higher than is provided for by some sea wall, a circumstance dependent upon the ungovernable forces of the winds, and fertile provinces descend forthwith into the watery depths of the German Ocean, whence it is pretended that they originally sprang. Yet, great as are the dangers thus menacing Holland from the outer waters, or the sea, still more formidable are those to which she is exposed from abnormal incidents and conditions of the "inner waters" of the Rhine, the Meuse, the Scheldt, the Wasl, the Leck, the Yssel, and their affluents and tributaries, which seam the Kingdom of the Netherlands, and parcel it out in an archipelago of islands.

Dangers from the "inner waters."—The breaking up of winter is the period of the year when danger is most to be apprehended from the "inner waters;" and the Rhine, "the father of all German rivers," is then the origin and source of evil. The great danger to be dreaded is the breaking up of the ice on the upper and swift waters of the Rhine and Meuse, before a thaw has opened up a free passage for the ice-blocks to the sea; and this danger is augmented when much snow has fallen, and suddenly melting, has soaked and soddened the artificial banks by which the Rhine and other rivers are held within their bounds in periods of flood. This combination, which occurs to a greater or a less extent almost every year, may at any moment of the winter season deluge and destroy some of the richest provinces of the Netherlands. The last great catastrophe of the kind occurred in 1861, when the ice from the "upper waters," unable to force a passage through the still solidly frozen "lower waters," completely filled the river bed, and rising high above the artificial banks, compelled the accumulating waters to break their bounds, and spread themselves over many hundreds of square miles, dealing death and destruction among villages, flocks and herds, and provender.

To understand, however aright, the great dangers to which this "low land," "nether land," "hollow land," or Holland, is exposed from irruptions of its "inner waters," it is necessary to realize the fact that the Rhine, the Meuse, &c., like the Mississippi, the Ganges, and all other great natural drainage systems of the world, deposit much

soil, earth, and sand (only partially held in solution), along their river beds; that this process of silting up has been going on without intermission for countless ages; that it has been combated by the Dutch by the gradual construction of artificial banks, and that the actual result with which the Netherlanders of to-day are brought face to face, is, that the great waters of the lower Rhine are borne above the level of the country through which they flow, and which in many places lies many feet below the bed of a river 20 feet in depth. Under these circumstances it does not require a prophet to foretel some grand disaster from the "inner waters" at perhaps no very distant day, when some unusual and unforeseen conditions of the thermometer and barometer will throw a greater strain upon the artificial river banks than they are capable of supporting, and when we shall have in Holland a redistribution of land and water, and a probable return to a more natural topography than that offered by the Netherlands of to-day. It is now very generally held in Holland that, in building up the banks of rivers in proportion as their beds have silted up, the Dutch have committed a fatal blunder, for which they will inevitably pay dearly at some future time; and it is argued that the frequent overflowings of the great rivers of the delta of the Netherlands were designed by nature to fertilize the soil. To escape however from inundations, which were not hailed with the delight of the Egyptians as absolutely necessary to the growth of grain, and to rid themselves of the practical inconvenience in a densely-peopled country of having, at uncertain periods, great rivers wandering about among their towns and villages in search of new outlets to the sea, the presumptuous Dutch have built up bulwarks to defeat the aims of Nature, and time alone can test the wisdom of the experiment.

Origin of the Waterstaat.—Still, whether right or wrong in the course it has adopted to defend itself against these watery dangers from within and from without, it is hardly strange that as this country advanced in science and the arts of civilization it should have concentrated much energy and thought upon the means of best supplying, by the hand of art, the security which the hand of nature had denied; and it is the result of three centuries of such an expenditure of energy and thought that it is now intended to record in a short account of the administration known as the "Waterstaat," to whose supervision the construction

and maintenance of all hydrographical undertakings in the Kingdom of the Netherlands are by law and ordinance entrusted.

Powers vested in it.—The powers vested by the State in the senior officers of the Waterstaat are in full proportion to the national importance of their office, and to the variety and extent of the work involved in watching and controlling "the state of the waters." At the command of an employé of this administration any subject of the Netherlands can be summoned from his bed and compelled, under heavy pains and penalties, to labour in the public service. From this primary obligation to the State not even the uniform of the King's Guards can exempt a Dutchman; individual soldiers and whole regiments are as much bound to obey the signal of alarm as the poorest operative.

In times of danger, the proprietors, whose landed and household interests are at stake, are not permitted to exhaust their energies and resources in the construction or fortifying of barriers to resist the growing waters within the narrow limits of their own fields and villages; on such occasions a law obtains, more respected by the Dutchman and more absolute than any martial law that ever was proclaimed. The whole population, and, if necessary, drafts from the neighbouring provinces, are called together by the booming of cannon and the tolling of bells to resist the threatened watery invasion at the most strategic points, and, so long as danger lasts, "force majeure" reigns supreme, and the personal service of the King, the conduct of legislation, artillery practice, and the passing bell are hushed, and held in due subservience to the mandates of the Waterstaat.

Training of its Officials.—To educate engineers for the performance of the duties of this administration a special college has recently been founded at the historical little town of Delft, in the province of South Holland; a nearly central point as regards the more important hydrographical public works in the Kingdom of the Netherlands. On every suitable opportunity the theories there taught are tested and explained to the students by practical illustration; and the receipt, by the Governor of the Institution, of a telegram from some threatened point, is frequently a signal to the members of the College to put away their books, and betake themselves without delay to witness the

rising and resisting of the waters of the Rhine or Zuyder Zee.

Cost of the Waterstaat.—Such are the general duties, and such is the education, of an administration which, according to competent authorities, has, in the course of the last 200 years, had the spending of over 3,600,000,000 florins (300,000,000*l.*), within the narrow tract of country lying between the Dollart and the Scheldt. This sum may be regarded as the price at which Holland has been purchased from the waters; but, great as it is, the interest on this money sunk does not fully represent the rent that Dutchmen pay for the uncertain tenure of their land, and the Kingdom of the Netherlands can only be compared to a copyhold property, with Neptune for Lord of the Manor, to whom annual fines are paid amounting to over 1,000,000*l.* sterling, in the shape of repairs and superintendence.

Calculated as these figures are to inspire respect for a little country, with an area of but 12,623 square miles, hardly as large as Wales and Yorkshire put together, to which this money stands in the light of a national debt, amounting to little short of half of that with which the revenues of Great Britain and Ireland are chargeable, we must examine in more detail the stupendous public works on which this money has been spent, in order to form a due appreciation of the untiring energy and industry necessary for the preservation of the land described in Hudibras, as—

> "A country that draws fifty feet of water,
> In which men live as in the hold of nature;
> And when the sea does in upon them break,
> And drowns a province, does but spring a leak."

These works may be divided into two great categories, as destined for the construction of new land, or the preservation of the old, and as noble specimens of each class we will cite the draining of the lake of Haarlem, and the dykes of West Capelle, to which the island of Walcheren owes its existence as dry land.

Lake of Haarlem and Dykes of West Capelle.—The first of these works was accomplished in 1852, after thirteen years of toil and anxiety, at a cost of 11,000,000 of florins (916,666*l.*), a sum which, large as it is, has nevertheless been completely recovered both in capital and interest, by the sale of 42,481 acres of valuable land; while the second presents to view a sea wall 40 feet in height, with a foundation 150 feet in width, with a slope towards the German

Ocean of but 1 in 13, faced with granite brought from Norway, thatched with turf, and surmounted by a carriage road lined with fine trees. Of this dyke it has been said, that had it been originally made of solid copper, the first cost would have been less than the sums successively expended in building and repairs.

Three hundred miles of dykes on the above pattern, but varying in solidity and cost according to the accidents of their position as destined to resist the heavy seas of the German Ocean, or the steady pressure of a rising river tide, protect the islands of the Province of Zealand from the irruptions of the outer and the inner waters: while no less than 85 per cent. of the superficial area of the eight provinces marked with an asterisk on page 699, lie below the level of the sea, and have been reclaimed at different times by private or public enterprize, after the manner of the great instance quoted of the Lake of Haarlem.

Boezemlanden.—The remaining margin of 15 per cent. of natural land, the Dutch term "boezemlanden," or lands from which the water runs off without artificial aid. These are principally sandy wastes or rabbit warrens, and represent well nigh the only portion of the Netherlands that nature appears to have designed as habitable for man.

Having thus briefly shown the important part that water plays in the physical economy of Holland, covering as it would, if unchecked, eight and a half-tenths of eight of her provinces, we shall proceed to a more detailed account of the uses to which this water is put in times of peace and war by the skilful hands of the patient race by whom this country has been constructed.

This inquiry, so far as regards pacific purposes, may be dealt with under two heads, Agriculture and Navigation, and both of these become subservient in times of war to the necessity of the State, which in the exercise of its "eminent domain takes to the water like a duck," and finds its natural refuge in resort to inundation.

To appreciate the beauty of the Dutch science of hydronamics, it is necessary to understand that from first to last it is a question of comparative levels. The error of a centimètre in level might drown a province, or frustrate the purpose for which some canal had been designed.

Amsterdamsche Peil.—Thus it may be said, without exaggeration, that the most important institution in the Kingdom of the Netherlands is a certain antiquated pile at

Amsterdam, but one of many millions of pine-trees brought from Norway on which the city is perched, which indicates the rise and fall of the outer waters of the Zuyder Zee and German Ocean.

For 200 years this pile has been watched with anxiety by the burghers of the Netherlands, and a graduated scale has been marked upon it, in which the mean water level is represented by zero. It is known as the "Amsterdamsche Peil," and every hydraulic undertaking in the country is measured by its standard, as having a level of so many mètres or centimètres above or below the usual level of the sea. The initials A. P. (Amsterdamsche Peil), O. A. (Zero of Amsterdam), or Z. P. (Zero of Peil) are the forms of abbreviation most generally used to represent the starting-point in all hydraulic calculations; and one of these with the signs + and − must therefore necessarily occur in every intelligible description of Dutch public works. In the course of this Report, the last one, Z. P., will consequently be used without further explanation.

Polder and Boezem.—Before proceeding further it is necessary to explain the meaning of two technical Dutch words, which are best retained in a descriptive task of this kind, as difficult, if not impossible, of translation. The first is "polder," which signifies a drained lake or tract of low-lying ground, only kept free from water by dykes and periodical pumping out; the second is "boezem," or the basin into which are pumped the waters from the polders belonging to any one of the hydraulic administrations among which the Netherlands is parcelled out.

Thus, in point of fact, the Haarlemer Meer is but a polder, and it is indeed so called on every Dutch map; while the River Ij, an estuary of the Zuyder Zee, on which Amsterdam is situated, is the great boezem into which it is pumped.

When the boezem is natural, and a marked feature in the topography of the county, like the River Amstel, the Old Rhine, or the Vecht, it often gives its name to the hydraulic administration of which it is the heart; in other cases, when the boezem is artificial or less marked, the administration takes its name from some central town, as Delft or Naarden. Thus we have Amstellands Boezem, Rijulands Boezem, Delftlands Boezem, &c.

Many of the artificial boezems, and indeed many of the

lower-lying polders, have been formed in early times by excavations of turf, of which fuel many millions of tons are still annually consumed; and to such a point has this mine of wealth been worked in some provinces—for instance, in Groningen and Drenthe—as to have entirely changed the face of the country, producing most abnormal topographical conditions, which will call for observation at a later period in this Report.

The value of a polder for agricultural purposes is dependent on its situation with reference to the boezem of the system to which it belongs. Different terms are used to distinguish those polders that abut on the boezem itself from those lying, so to speak, further inland. Then there are also what are termed "administrative polders," of perhaps a lower level, and nearer to the boezem than others, and into which these others may be drained without resort to artificial means.

The machine in most general use in the Netherlands for agricultural draining purposes is the Archimedes screw pump, and the motive power is almost invariably the windmill, which is in much favour with the Dutch husbandman, as applicable to his three primary requirements of draining, the conversion of his corn into flour, and the sawing of the timber needed for the construction of his dwellings and farm buildings.

The almost constant winds that blow over the flat surface of the Netherlands are thus utilized, and become of immense importance to the country as a grain-bearing land. Without them it would be a superhuman labour to keep the polders free of water; and the only circumstance that tends to check their utility is the fact before alluded to, that a continuance of certain winds, piling up the outer waters into which the boezems discharge, renders it necessary to shut the sluices to keep out the ocean knocking at their doors. When this occurs, during the rainy months or the melting of the snows, all agricultural pursuits in the locality affected are brought to a standstill. The water rises daily in the polders, and they assume the aspect of inland seas; while the boezem, full to the brim, and incapable of discharging into the sea, will not stand the introduction of more water without overflow.

The orders of the Waterstaat are then rigorously enforced; the windmills cease pumping, and the peasant knows that he cannot sow or plough his fields until a

change of the high wind, which, if it only came from another quarter would be so favourable, allows the outer waters to retire, and permits the reopening of the sluices towards the sea.

Schermerboezem.—With the aid of these preliminary remarks, the following more detailed account of one of the numerous water administrations into which this kingdom is divided may perhaps be rendered comprehensible.

The administration here selected to exemplify the multiform and ingenious contrivances invented by the Dutch for the control of large bodies of water is called the "Schermerboezem," in the Province of North Holland; It lies between the Zuyder Zee and the dunes, and is thus exposed to the national danger of submersion on the one side, and protected by the national defence upon the other. It contains the Alkmaarder Meer, and is bounded to the south by the River Ij, thus having to guard against attacks from inner and from outer waters. It is important in area and fertility, and possessing to a large extent the leading features of the Netherlands, appears well fitted for an illustration of this subject.

To the Schermerboezem belongs the most extended polder system in North Holland. The whole tract of country thus parcelled out into polders, with their boezem, bears the name of "Kavel Waterland" (literally translated "group of water-land"), and by this appropriate name it is designated by the Waterstaat, and minutely described by Mr. G. de Vries,* Member of the Council of State, in his work, published in 1864, on the Sea Defences and Water Administration of North Holland. From that interesting work, and from the nine as yet published sheets of a very beautiful hydrographical map of Holland, now being brought out by Government on the large scale of 1 in 50,000, or, in round numbers, $1\frac{1}{4}$ inch to the mile, the details that follow have mainly been extracted.

Extent of Kavel Waterland.—Kavel Waterland includes all lands and waters lying between West Friesland to the north, the line of the dunes or sand-hills to the west (here forming a barrier against the German Ocean of between 1 and 2 miles in width, and 18 feet in height at the lowest point), the River Ij to the south, and the Zuyder Zee to the east.

The area of Kavel Waterland may be roughly stated at

* Work by Mr. G. De Vries.

240 square statute miles, of which not 10 square miles are occupied to-day by the boezem and canals. The Schermerboezem itself contains 5,000 acres of water, and the polders belonging to it contain in all 193,750 acres.

This tract of country formerly contained a chain of stormy lakes, which often overflowed in wet seasons, and, joining one another, formed vast inland waters, ruinous to agriculture, and threatening to the dykes that alone separated them from the dreaded Zuyder Zee. The principal of these lakes were the Beemster, the Purmer, the Wijde Wormer, and the Schermer. These four alone, when at their lowest level, covered two-thirds of Kavel Waterland. Towards the end of the sixteenth century, however, man began to get the upper hand of them, and their conversion into polders was happily completed in 1612, 1622, 1626, and 1635. The first of them, the Beemster, is, after the Haarlemmermeer Polder (which is twice and a half its size), the largest specimen in the Netherlands of what the Dutch term "drymakings." The scheme was first broached in 1570. In 1592 funds were applied for, which were not, however, promised by the States of Holland and West Friesland until 1597. In 1607 a company was formed at the Hague by Dirck van Oss and others to pump out the Beemster in whole or in part, and on their security the States lent the necessary capital on May 21, 1607. At the commencement it was thought that sixteen windmills would suffice for the undertaking, but this number was shortly increased by ten, and the twenty-six mills were then divided into thirteen gangs. By the end of 1608 several of the mills began to pump, and early in 1609 they were all ready.

Towards the end of this year the bottom of the lake became visible in some places, but during a storm on the 23rd of January, 1610, the great waterland sea dyke gave way at Durgerdam, and the pressure on the ring dyke that had been constructed round the Beemster proved greater than it was capable of resisting. It gave way in two places, at Neck and at Rÿp, and the lake was again filled.

On the 15th February, 1610, further and ample funds were advanced by the States; in 1611 more mills were put on to the work; on the 19th May, 1612, the drymaking was at last completed; and on the 30th July of that year the distribution of the lots of land redeemed took place at the town of Purmerende.

The number of mills working in the different years was as follows:—

	Mills.		Mills.
1608	.. 21	1611	.. 41
1609	.. 26	1612	.. 43
1610	.. 30		

The mills were latterly divided into twelve gangs, that is, worked at twelve points. The ring dyke is over 37,000 yards long, and has an average height of + 1·50 Z. P. (a mètre and a half above the mean level of the sea).

Thus was the Beemster pumped out; and from that day to the present the name of Dirck van Oss has been held in deep respect in Holland, as the name of the first Dutchman who conquered the waters on anything like a large scale. The system he employed has been closely followed in all successive undertakings of this kind, and, with the exception of the application of steam and certain improvements in machinery, the plans of Dirck van Oss for draining the Beemster were adapted the other day with a like success to the Lake of Haarlem by M. Gevers d'Endegeest, the hero of this last conquest, and the sanguine prophet of the ultimate reclaiming of the Zuyder Zee.

Distribution of a Drained Lake.—When a lake has been laid dry and its acres divided among the shareholders of the undertaking, its area is next subdivided into parallelograms, often not larger in extent than an acre a-piece, and separated from each other by what are known, in the phraseology of Dutch agriculture, as primary canals. Such a ditch, for in reality it is little more, performs the following four important services. The parallelogram is drained into it in wet seasons, and irrigated from it with facility in times of drought. It forms a water highway for the small canal boats that in this country take the place of the tumbril and the waggon of Old England, and finally it answers all the ends of quickset hedges as barriers for fields and properties, while tending by its presence to fertilize and not impoverish the soil. According as the circumstances of the ground (such as the level drainage, &c.) require, a dozen or more of these parallelograms are told off by the Waterstaat as forming a little group by themselves, and are compelled to pump their superfluous drainage into, and take their irrigating water from, one or more transverse canals of a higher water level, which again communicate

in their turn with the main outlets to the sea. In the Beemster polder there are no less than four canal systems of different water levels, through all of which every drop of water must pass in the course of its conveyance to or from the ring dyke by which the whole system is surrounded.

Ring Vaart.—This ring dyke is invariably constructed in duplicate, with an intervening space of from 15 to 20 mètres, and a navigable canal is thus formed, on the banks of which the waterworks are erected, and into which the water from the lake is discharged. Now, in the group of drained lakes known as Kavel Waterland, these "ring vaarts," as they are called, have been connected with one another by several canals, the waters of which can be cut off at pleasure at certain points by means of locks and sluices, according to the demands of agriculture, navigation, and the variable land. This great arterial system is in reality the Schermerboezem proper, and the ring vaarts of the Beemster and the Schermer, to the south and south-west respectively, have been widened and deepened so as to form important links in the great North Holland Canal, the water highway by which Amsterdam is connected with Helder by a direct line of inland navigation.

North Holland Canal.—The proportions of this work may be realized from the fact that it was constructed to admit of line-of-battle ships passing one another at any point along its length. Possessing, moreover, as a boezem-water, a common level throughout its length, its navigation is relieved from the usual tedious interruptions of multiplicated locks and sluice gates. Further an idea may be formed of the character of the whole work from the knowledge that this canal has been built up, not made by digging, and that this enormous volume of artificial water, though lying considerably below the mean level of the sea, is lined throughout its almost entire length by drained lakes, lying from 1 to 4 mètres below itself.

The exact level of the Schermerboezem proper is – 0·56 Z. P. in summer, – 0·40 Z. P. in winter, and – 0·90 Z. P. when at the lowest point it is allowed to attain.

Height of Dykes.—The following Table, from the careful work of Mr. Vries quoted at p. 710, is not without interest as illustrating the nicety and accuracy with which the operations of the Waterstaat are conducted. From it can be seen at a glance the various levels of some of the more

important dykes and piers that protect the eighty-one polders dependent on the Schermerboezem in the administration of Kavel Waterland.

Schermer ring dyke	+1·00 Z.P.
Beemster „	+1·50 Z.P.
Purmer „	+0·20 Z.P.
Wijde Wormer „	+0 07·5 Z.P.
Zaan Nanwernasche vaart	= Z.P.
Marker vaart	+0·10 Z.P.

(To get the total height of these dykes, the depth of the polders below the level of the sea must be added; it averages perhaps 15 feet over all.)

Level of Polders.—The eighty-one polders thus protected from inundation—from the rupture of a sea wall or the overflow of a boezem—lie mostly 3 or 4 mètres below the level of the sea, and 2 or 3 mètres below the level of the boezem into which they are pumped.

Thus the drained Beemster is divided into the following principal polders, lying at the following depths below the sea:—

Boven polder ..	containing	4,375 acres	−4·00 Z.P.
Arenberg polder ..	„	4,487½ „	−4·27 Z.P.
Kruisoord polder ..	„	117½ „	−1·50 Z.P.
Lage kilpolder ..	„	2,187½ „	−4·35 Z.P.
Midden polder ..	„	5,312½ „	−4 05 Z.P.
Hooge kilpolder ..	„	1,162½ „	−4·13 Z.P.
Total		17,642½	
Add for roads and canals ..		19½	
Total acres within ring dyke..		17,662	

Salubrity of.—Once finally drained, these polders are not found to leak by percolation to any considerable extent, and the ordinary rain-fall during autumn and winter is seldom more than is advantageous to the ground, and can be pumped out by the ordinary windmills before the 1st of May. Neither does experience show that polders form unhealthy residences. All the great lakes that have been drained have become densely inhabited; and although the flat-roofed farm-houses with which they are dotted have been compared by travellers to mushrooms that have sprung up amid the tufted vegetation surrounding them, the born inhabitants are forgetful of the factitious nature of their soil, and prove satisfactorily by statistics that the conditions of existence they enjoy are not detrimental to mankind.

The details above given are all applicable, *mutatis mutandis*, not only to the polders formed by the draining of the lakes, already mentioned as comprised in Kavel Waterland, but to all reclaimed ground in the Netherlands. Everywhere the same windmills greet the eye, all performing the same task of pumping up water from the polders into the boezems during a period of at least half of each year.

Application of Steam.—Steam power is of very partial introduction, that is to say, it is confined to some few large and recent operations, and to a very few strategic points, such as the abutting of a boezem of a low level on the sea, in which case the work of discharging water is enabled to continue when high tides or prevailing unfavourable winds have compelled the closing of the sluices. These sluices invariably open towards the sea, and thus shut and open naturally and at the right time, according as the pressure comes from within or from without. They are always remarkable for solidity, and often of magnificent proportions. The application of steam, as above stated, is still of necessity confined to some limited administrations, where the waters do not exceed a volume that can be grappled with and reduced in a short period—say a week at most—and where, moreover, the land is of that valuable nature, or the valuable crops are so endangered, as to make it worth while to consume fuel rather than patiently await a return to favourable conditions.

Water-mills.—In some districts, where the soil is highly charged with silt, the Scoop or Eckhardt wheel is used in preference to the Archimedes screw pump; and as the water seldom requires to be lifted more than a mètre at a time from a lower into a superior tier of canals, almost any form of water-wheel can be easily applied, and turned by the construction of the simplest windmill:—

"It is easy to conceive the extreme fertility acquired by land managed in this manner. Formed originally of mud, which was itself rich, it is covered all the year round with herbs which contribute to its fertility. All the water that is injurious is drawn off almost at pleasure, and a regular and gradual irrigation is introduced at the most favourable moments."

Taxation of Polders.—Yet this extreme fertility does not all represent net profits to the proprietors or farmers of the soil. Taxes for the support of the Waterstaat are

heavy, and must be paid to keep the country above water. These taxes form no exception to the general rule in such matters, and assume the well-known shapes of charges direct and indirect. The direct average perhaps 8 florins per acre on land that has been reclaimed, and the indirect include forced labour "for a man's own self" in perpetually ditching and dyking, if he will make the most of what may be called his unnatural advantages. The dunes, moreover, which ensure safety on one side at least, require to be kept in order and carefully watched. They are composed of fine sea-sand heaped up like the hills of the desert, and their tendency is to blow inland and smother the alluvial soil. To provide against this contingency every kind of herb that can be induced to take root in the shifting sand is planted at those strategic points where the wind catches the corner of a sand-hill, and bent grass is trained with care and great expense along the coast from Texel to the Scheldt, forming what may be called an inner line of coast defences against the fury of the elements.

Nothing would be easier than to prolong this Report to an indefinite length by describing in minute detail the administration of Rijnlandsboezem, of Raakmastsboezem, of Amstellandsboezem, of the boezem of Naardervaart Karnemelsloot, of the Vecht, and of the town water of Amsterdam, with all of which the maps of Mr. Conrad have now for the first time made the public acquainted. Such a description, however, would only contain needless repetitions, as the features with which we are now familiar would but repeat themselves from different points of view, with some unimportant variations of the plus and minus quantities. It will therefore be enough to state that the experience of the Dutch in controlling the waters, and converting natural enemies into priceless auxiliaries for the ends of agriculture, navigation, and military defence, is now at the disposal of the public on payment of rather more than 1*l.* sterling.

The publication of these maps was ordered by Mr. Thorbecke, when that statesman was last Minister of the Interior, and they are now being executed under the personal superintendence of Mr. Conrad, the chief engineer of the Waterstaat, assisted by Staff Lieutenant-Colonel Jacob Bessier. The military topographical maps of the Netherlands have been taken as a basis, and each sheet (costing about half-a-crown of our money) contains a map

16 inches by 10 inches, representing a tract of country a little over 12 miles in length and 8 in width, with ample marginal explanations and descriptions of the nature of the ground and character of the works within those limits.

Explanatory Signs employed.—Throughout these maps the end of easy comprehension has been steadily kept in view, and has been sufficiently attained by the adoption of the following signs, which are invariably printed in red ink :—

Scoop water-wheel windmills.

Archimedes screw water windmills.

Signal stations.

Steam watermill, showing its horse-power.
(N.B.—A small s or p under this sign indicates a Scoop-wheel or Archimedes screw pump.)

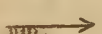
Small water windmills.

Sluice gates.

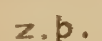
Protective sluices.

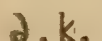
Dam.

Transverse sluices through or under an aqueduct.


Gauge pile.

Boundary of an administration.

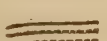

Summer level.


Height of dyke or quay (with figures).

(1825) Rupture of a dyke, with date of occurrence.

Railway.

Street or road.


Sea wall

The size of the polders is given in bunders, a bunder being equal to $2\frac{1}{2}$ acres.

Colouring of Maps.—Additional clearness is given to these maps by the excellent system of colouring adopted. For example, the boezem of any given administration is coloured blue, green, or brown; the polders belonging to it being tinted light blue, green, or brown accordingly. Thus the colour of a polder always corresponds to that of its boezem, the only exception being in the case of polders that discharge direct into the outer waters, which are invariably of a brighter green.

Polders having no direct communication with their boezem but discharging into another (or administrative) polder, are surrounded by a narrow ring or belt of slightly darker shade, and a striped colouring is adopted in the case of polders discharging into two separate boezems, and thus belonging to two distinct administrations.

All ground of which the level is superior to the mean level of the sea is left uncoloured, and it is thus evident at a glance that the narrow dunes or sand-hills constitute the only natural land in the districts as yet illustrated by Mr. Conrad's maps.

Works, such as canals, in course of construction are indicated by dotted red lines; and reference to the maps shows that it is not deemed impossible to reclaim land lying at an average depth of 17 mètres below the level of the stormy waters of the Ij, and that a canal is being constructed through the dunes to unite the outer waters of the German Ocean with the mart of Amsterdam, in order to save commerce from the danger and delay of the long circuit to the north by Texel, and also to provide for Amsterdam a direct outlet to the sea in the event of the execution, at a later period, of the gigantic project of the draining of the Zuyder Zee.

The maps above described appear at uncertain and irregular intervals. The two extreme northern sheets of the nine now published appeared but a few weeks ago, and it is known that several sheets are now prepared and ready to be given to the world, and are only awaiting funds, and leisure of the Hydrographical Department, to pass them through the press.

Before it is possible, however, finally to dismiss the subject under consideration, it is necessary to extend the area of these inquiries beyond the limits of the nine sheets of Mr. Conrad's maps, and of the 698 octavo pages of Mr. Vries' valuable work on the Waterstaat of North

Holland. It is necessary to cast a glance, however cursory and superficial, on the abnormal shapes assumed by the lands of Groningen and Drenthe owing to the constant excavations of turf during many centuries, and on those strategic lines of Utrecht and the Yssel, by which, in time of war, the Dutch hope to baffle the advance of the invaders of their soil.

Origin of Lakes.—From the consideration of polders and drained lakes, one needs to go but one step further back in history to find the causes to which these lakes owed their origin. The earliest reliable records that exist describe the Netherlands as "girt with forests." "An extensive belt of woodland skirted the sea-coast, reaching beyond the mouths of the Rhine. The groves of Haarlem and the Hague are relics of this ancient forest. The Badahnena wood, horrid with Druidic sacrifices, extended along the eastern line of the vanished lake of Flevo. The vast Hercynian forest, nine days' journey in breadth, closed in the country on the German side, stretching from the banks of the Rhine to the remote regions of the Dacians in such vague immensity that no German, after travelling sixty days, had ever reached, or even heard of, its commencement. On the south the famous groves of Ardennas, haunted by Faun and Satyr, embowered the country, and separated it from Celtic Gaul." In the lapse of ages these forests became overgrown: the soil, rotten with fallen trunks and layers of fallen leaves, no longer afforded to the roots of oaks the firm support necessary for enabling them to brave the fearful hurricanes that swept over the land, and thus amidst succeeding storms and inundations these forests gradually disappeared, until now almost the only trace remaining of them is to be found in the vast peat fields that cover, more or less, the whole Kingdom of the Netherlands.

Extraction of Peat.—The use of this substance for fuel was known to the ancient Belgæ, whom Tacitus describes with pity as a people compelled to burn their ground for want of wood, and Pliny with admiration as a people who fished for fuel, with which, when dried by the wind rather than by the sun, they warmed their bodies benumbed with cold ("rigentia septentrione viscera sua urunt"). Thus the extraction of turf for fuel in Holland dates from the earliest times, though it was not until 1215 that the peasants of Friesland learnt to turn this gift of nature to the best

account by chemical preparation. From that period till the present day, the consumption of turf in the Netherlands has kept pace with the increase of the population. In 1834 the annual consumption was 22,275,623 tons, and in 1852 this had increased to 33,943,630 tons. These figures are of interest when compared with the consumption of coal in the Netherlands, as showing that peat still holds its own for purposes of fuel, that notwithstanding the great quantities of coal now imported for manufacturing and domestic purposes the demand for peat is constantly increasing, and that this traffic is fifty times as active and extensive to-day as that in coke and coal put together.

The Government has, therefore, been compelled to step in to stay the wholesale destruction of the Netherlands by fire, and the consent of the Waterstaat is now necessary before a proprietor may reduce the level of his land by cutting it up into bricks of fuel for the market.

There does not exist the shadow of a doubt that nine-tenths of the polders now drained and cultivated were once bogs and mosses, such as exist in Ireland and in Scotland, but for the most part situated so low that, the layers of turf removed, they rapidly became lakes, which irruptions of the inner waters often converted into inland seas. Then came the prevalent gales, heaping up the outer waters, as they often do in the course of a fortnight, ten and twelve feet above the highest spring tides known, the narrow rotten causeways protecting these inland seas would be swept away, and the result is visible to-day in the Zuyder Zee, the Lake of Haarlem, and the thousand other polders whose origin may be traced to early ignorance of water engineering, and the use of turf as fuel from a date antecedent to the Christian era.

Fertility of Exhausted Turbaries.—It must also be remembered that, besides the immediate profit to be derived from selling paternal acres by the square inch, the landlord might anticipate a more lasting gain from the fact that the removal of the layer of turf frequently exposed rich alluvial lands, which, when dyked and converted into polders, produced crops of potatoes, rye, clover, and buckwheat in rapid rotation; and this hope, though not always realized, has proved a great incentive to the excavation of peat.

In general, bogs or turbaries are known in Holland as "hooge" or "lage veenen," that is, situated above or

below the level of the waters. The former are naturally the most easily worked, as they may be cut out with a spade at discretion; while the latter require preliminary dyking and draining to let off the water before the fuel can be dug and prepared.

Historical Anecdotes.—Peat has played a part in Holland second to no other produce of that country; and the Dutch relate with pride that it has had its patriotic as well as its material uses. Their history contains two episodes in support of this assertion. The first occurred in 1593, when the Spaniards had with great difficulty constructed a chaussée to traverse some bog lands. This passage the Dutch had made impracticable for cavalry and artillery by felling trees and laying them across. Of this timber the Spaniards made a bonfire, which communicated to the causeway and surrounding turbaries, compelling the Spaniards to beat a hasty retreat, and thus raising the siege of some important fortresses. On hearing of this disaster, Philip II is reported to have ordered that, "since Holland was combustible, it should be burned to ashes."

The second story is as follows: The impregnable town of Breda was occupied by the Spaniards and besieged by the patriots. Winter approached, and one evening a huge canal-boat appeared at one of the water-gates of the city laden with peat. The boat was joyfully admitted by the Spaniards as relieving one of their most pressing wants; the discharge of cargo was postponed till daybreak, but before midnight had tolled the boat-load of turf had proved itself a second Trojan Horse, from whence eighty armed men issued, overcame the guard at one of the gates, and admitted the valiant Prince Maurice at the head of his army.

These services, besides its properties of giving out heat and light, its ashes affording rich manure, its soot being valuable for cleaning pots and pans, and its smoke for preserving fish and meat, have endeared turf to the heart of every peasant as an article of primary importance to the domestic comfort of his daily life.

The three northern provinces of Friesland, Drenthe, and Groningen, indubitably owe most of their well-being to their wealth in peat. There the proprietor of the soil, after exhausting one layer of turf, and reaping splendid crops without manure from the alluvial soil laid bare, often after awhile removes the alluvial soil to some neighbouring

sandy waste, discovering under it fresh layers of peat, and still more alluvial soil. The depth to which cultivation is thus carried by successive removals of peat and soil often exceeds twenty feet; and no truthful estimate can be formed of the original face of nature by the study of the present features of a Netherlands landscape.

Floating Turbaries.—In the three provinces above-named, but especially in Overyssel, one last phenomenon occurs which calls for some remark. This is the existence, now rare however, on the borders of large lakes, of floating turbaries, bits of which may be cut off in strips, according to the width of the canals they have to traverse, and floated down to market. Many legends are told of the embarrassments these floating turbaries have caused. Many a farmer has been compelled to tether his fields to prevent their floating away; and when desirable to keep flocks and herds separate, these fields have been pushed off from the shore, and anchored at a distance. Then perhaps a storm has suddenly arisen, the fields have dragged their anchors, and floated out to sea.

Such incidents are now of rare occurrence, but it would not be difficult to make a collection of well-authenticated tales of a similar description that would strike astonishment into the sober minds of English husbandmen, as tending to convert the laborious and practical profession of a farmer into a life of fable and excitement.

Having now examined briefly in their varied shapes the defences by which Nature and the hand of man have made the Netherlands sufficiently watertight for the support of life, it is time to inquire what is the truth respecting the much-vaunted lines of Utrecht and the Yssel, to which the Dutch trust for protection against the aggressions of their fellow-men.

Lines of Utrecht and the Yssel.—One glance at the map is, however, unfortunately sufficient to show that the confidence which familiarity with the practical meaning of the word "inundation" has engendered in the liberty-loving Dutch, appears to be somewhat overweening and of but partial application. For of the eleven provinces constituting the Kingdom of the Netherlands, three only, viz., North Holland, South Holland, and Utrecht lend themselves to this defence. In other words, of the 12,623 square miles and 3,600,000 souls included in the Netherlands, only 2,666 square miles, and 1,412,000 souls, could under the

most favourable circumstances be protected within the lines of practicable defence by flooding.

In the important category of favourable conditions for flooding these lines, moreover, the state of the ungovernable elements largely enters ; and although history teaches that in former times these have often been of incalculable service to the Dutch when defending themselves against the relentless Alva or the chivalrous Alexander Farnese, yet it must be remembered that the dilatory warfare of that date is ill-comparable to the celerity with which the Seven Days' War has made the world familiar.

To the lines of Utrecht and the Yssel no great mystery attaches. They are visible to the eye of any engineer travelling through the country. There has been a great abstraction of peat, and the level of the land is in consequence extremely low. Direct communication with the Zuyder Zee, with the German Ocean, and with the minor waters of the Old and New Rhine, the Maas, the Waal, the Leek, and the Yssel would appear at first sight to offer an abundant, if not inexhaustible, supply of water ; but so great are the existing precautions against inundation from these very waters, that it is calculated a week would be required by the Waterstaat to cut the dykes and remove the obstacles to their free entry. Further, even supposing the invaders had permitted this work to be accomplished in the specified time, a low level of the inner waters and prevailing easterly winds might indefinitely delay the fair accomplishment of the scheme.

In addition to the great strategic lines above mentioned, almost every Dutch fortress has a local flooding system of its own ; but a kingdom containing, according to the last census, but 1,748,163 males, men and boys, cannot, in the presence of the large standing continental armies of to-day, even undertake to defend too long a line of frontier. This is the argument that has prompted the decision recently taken, of which no secret has been made, to raze the frontier fortresses, and, in case of need, to concentrate the whole resources of the country for the defence of Holland Proper, whose absolute independence is so dear to every Dutchman.

(Signed) T. J. HOVELL THURLOW.

Belgium.

Report by Mr. Barron, Her Majesty's Secretary of Legation at Constantinople, on the New Tariff of Belgium.

Mr. Barron to Lord Stanley.

My Lord, *Constantinople, April* 9, 1867.

1. Earl Russell's Circular of 24th January, 1860, lays down that in the case of a transfer, "such Secretary shall be expected to make his half-yearly report as from the place from which he had been transferred." Having collected and prepared with some labour materials for a report on the new Tariff of Belgium, I think it will still be useful and conformable to the above instruction that I should submit the same to your Lordship in a classified form. This report would have been ready sooner but for another duty which devolved upon me immediately after my arrival here. My object is now to offer *an abstract of the Tariff of* 1866, *drawn up in the form adopted by the Board of Trade* in their comparative returns of foreign Tariffs, laid before the House of Commons in 1863; with the Belgian weights, measures, and duties reduced to their equivalents in English denominations, and with an additional column showing the *ad valorem* effects, as far as they can be computed from official or other authentic data, of the new specific duties. This last column, entirely original, affords the only means of estimating the real incidence of the Tariff. The Belgian Tariff being arranged in alphabetical, not in systematical order, has, if translated, to be re-arranged. In doing this I have adopted the classification of the Board of Trade, as that sanctioned by the highest authority.

2. Belgium has been till recent years, a stronghold of the protectionist system. From 1830 till 1849, all the economical aberrations, which prevailed in France, there found faithful imitators. This system reached its climax in *the Law of* 21st *July,* 1844, the result of a long parliamentary inquiry, which established a most complicated scale of differential import duties, varying according to the origin

and mode of transport of each article. During the same period a succession of commercial treaties was signed with other nations, still further complicating the Tariff, till it became a perfect labyrinth. Every article was followed by seven columns showing the seven different rates of duty to which it was liable according to circumstances. The general Tariff was followed by special Tariffs applicable to the produce of certain favoured countries. The whole formed in 1847 a quarto volume of 418 pages.

3. *The reform of the Tariff was commenced by two important Laws of* 16*th July and* 8*th August*, 1849, repealing the greater number of the export duties, and establishing perfect freedom of transit. This reform was continued by the Law of 22nd February, 1850, substituting a moderate fixed duty for the sliding scale on corn, and reducing the duties on cattle and meat. Another important step in advance was effected by a temporary Law of 21st January, followed by a Royal Arrêté of 2nd February, 1852, abolishing certain preferential duties which had been established in 1822 and 1844, with a view to favour the national shipping trade, but which had been gradually extended by Treaty to almost all flags. Ten articles alone remained subject to differential duties, viz., cabinet-makers' woods, dye-woods, coffee, cotton, fruit, olive oil, rice, sulphur, sugar and tobacco. These, when imported in Belgian vessels, enjoyed a reduction of 10 per cent. Some articles considered raw materials of industry, such as whalebone, ashes, horns, hoofs, horse hair, leather parings, copper ore, raw tin, lead, tar, indigo, marble, &c., were relieved of duty. Some few duties were reduced. Others, those on cocoa, cinnamon, spices, honey, tea and oysters, were raised. A Law of 26th April, 1853, repealed all the remaining export duties, excepting only those on ten articles. A project of Tariff reform brought in by the Government in 1854, was lost on account of the change of Ministry in 1855, and of the opposition of the coal and iron interests.

4. In 1856, a Law of 27th May, accorded some further reductions on machinery; that of 19th June, abolished the only remaining differential duties, those on coffee, fruit, rice, sugar and tobacco; at the same time reducing those on vessels, ships' tackle, timber, honey, herrings, stock fish, soap and iron. In 1857, another important Law was passed on the 18th December, liberating a great number of raw materials and reducing the duties on other articles,

viz., on steel, timber, fermented beverages, coal, ropes, preserved food, copper, filaments, seed-oil, wool combed or dyed, mercery and small wares, chemicals, maccaroni, sewing silk, colors, oil cake, truffles, carriages, zinc, &c. Thus, it appears that from 1849, the Customs Tariff had been gradually *simplified*, reduced, and even, as regards export and transit duties, abolished. The import duties on most raw materials, as well as the differential duties on Colonial wares, had been swept away; those on articles of food had been brought down to moderate rates.

5. The duties on manufactured articles, the most delicate part of the question, remained yet to be handled. Many industries, nursed by the protective system, which long gave them a monopoly of the home market, had grown into considerable interests. An inquiry was instituted on the subject in 1856, the result of which was published in 1859. The Government was about to submit a definitive measure to the Chambers, when a memorable event enabled it to adopt another and more profitable course. On the 23rd January, 1860, France signed a commercial Treaty with England, reforming and partially renouncing her restrictive system. At the same time the Franco-Belgian Commercial Treaty of 1854, required to be renewed. Belgium of course claimed an assimilation to England. This, after a hard negotiation, was at last accorded to her by the Treaty of 1st May, 1861, and even many additional advantages. Thus she secured that foreign and colonial produce imported into France directly from Belgium was to be admitted at the same rates as if imported in a French vessel from a country not that of production (Article XIV). This is a *great advantage accorded to Antwerp over English ports* incompatible with the spirit of the Anglo-French Treaty of 1860, which gives us the treatment of the most favoured nation. If goods imported into France by sea in British vessels are to be taxed at a higher rate than those imported by land from Antwerp, the equality conceded to England by Article XIX of the Treaty is merely nominal.

6. The new treatment accorded to France was the result of a searching inquiry which had lasted from 1856 to 1859. The Belgian followed the example of the French Government, *in first elaborating a Tariff which should be most advantageous to the aggregate industries of the country, and in then making this Tariff a lever for securing valuable*

concessions from foreign countries. The Treaty of 1st May, 1861, was not however designed, like the former ones of 1842, 1845, and 1856, to create any privileges or monopolies, but to establish moderate Tariffs on either side of the border, applicable eventually to the world at large. It had the double advantage of securing to Belgium important concessions, in return for others which were attended with no sacrifice on her part, and of facilitating the success of Tariff reform at home. The two Governments mutually exchanged with each other their reforms, and placed them under an international guarantee for ten years. On the whole, the new Belgian Tariff is the more simple and moderate of the two.

7. The new Tariff, though avowedly destined to be extended to the world at large, was first made an object of negotiation, and was held up at a valuable consideration to be offered in return for similar favours in other countries, and for their concurrence in the redemption of the Scheldt toll. Some few countries, such as Turkey, the United States, Italy, Russia, and Greece, entered at once on the enjoyment of the new Tariff, in virtue of former Treaties with Belgium, giving them the treatment of the most favoured nation. All others were expected to give some equivalent. *England had nothing left to give, having immediately and gratuitously extended to Belgium the same treatment which was purchased by France,* a treatment infinitely more liberal than that which we obtained from either of those Powers. The staple products of Belgium, with two exceptions, sugar and chicory, were admitted to England free of all duty whatever. Under this régime Belgian exports to England suddenly rose from 76,000,000 francs in 1859 to 95,000,000 in 1860, showing the immense value to Belgium of the British market.

8. With much skill the Government effected a series of Treaties with other maritime States, by which they all consented to take upon themselves a certain share of the cost of the *Scheldt toll redemption,* under the impression that this toll, which virtually had never yet existed, might possibly be imposed on vessels some future day. The purchase money paid to the Netherlands, was 1,451,000*l.*, of which Belgium consented by the general Treaty of 1863, to assume one-third, and the other Powers assumed two-thirds. As some States, especially Mecklenburg and the Argentine Confederation, have hitherto refused their

adhesion, their quota must be paid by Belgium. This will raise the balance chargeable to her to 577,000*l.*, as the quotas assumed by the other maritime States amount to 874,560*l.* That paid by England was 349,197*l.*

9. On the 23rd of July, 1862, *a Treaty of Commerce and Navigation in twenty-seven Articles* was signed in London *between Great Britain and Belgium,* by which we were admitted to the benefit of the new Tariff, from the 1st of October, 1862, *i.e.*, one year later than France. Even then our cotton yarns and prints, our mixed fabrics of cotton and wool, and our spirits, were placed under temporary restrictions. It was only on the 1st of October, 1864, that the final reduced rates on irons, linen, woollen and cotton yarns, pottery, porcelain, woollens and spirits, came into operation, those being the British manufactures most dreaded by the Belgian industrial interests. Previously to the signature of this Treaty, Belgium obtained the concurrence of Great Britain in the Scheldt toll redemption, thus securing the realization of this cherished project, and in addition an international guarantee for ten years of the many other solid advantages already freely accorded to Belgian industry in Great Britain and her dependencies.

10. The Belgian manufacturers had already been braced for the struggle by the free admission of all raw materials of their industry. In exposing them, by a relaxation of the Tariff, to lose some of their home customers, it was thought just to indemnify them by endeavouring to open out new markets for them abroad. For this purpose the views of the Government were first turned towards France, the access of which market had been formerly barred by a legislation quasi prohibitive, but yet preferential in favour of Belgium. *The Treaty of 1st May*, 1864, was the result of the long negotiations which ensued, and *formed the basis of the new Belgian Tariff.* A series of Treaties founded on it were ratified in 1862, 1863, and 1864, with Turkey, Morocco, Mexico, Bolivia, Great Britain, France, Austria, Prussia, Chili, Denmark, Spain, Hamburg, the United States, Bremen and Lubeck, the Netherlands, Sweden and Norway, Switzerland, Brazil, the Hawaiian Islands, Italy, Oldenburg, Hanover, Portugal, and the Zollverein, by which nearly all adhered to the Treaty of 16th July, 1863, for the capitalization of the Scheldt toll, and received the benefit of the new Belgian Tariff. Thus was the new or conventional Tariff gradually extended to

all civilized States, but still retaining its preferential or exceptional character, the old Tariff of 1857 being still legally in vigour. This situation was fraught with inconvenience, by imposing on merchants the necessity of certificates of origin and other formalities.

11. It was all along intended eventually to harmonize the numerous changes of Tariff recently stipulated, and to extend the benefit of them to the world at large. This was effected by the *Law of 14th August*, 1865, authorizing the Government to *generalize the various rates of duty* resulting from the late Treaties of Commerce, and to revise the classification of goods, provided that no duties were increased. This Law does not take away the power conferred on the Government by the law of 19th June, 1856, to exercise reprisals against any State which should withhold from Belgian navigation or commerce the treatment of the most favoured nation.

12. *The 2nd Article of the Law repealed or reduced the duties on twenty-seven articles*, which either encumbered the Tariff without producing any revenue, such as those on chicory, ropes, nets and tackle for deep sea fishing, lake, acetic and hydrochloric acids, sal-ammoniac, plates and wire of tin, lead or zinc, or which, for the promotion of industry and discouragement of smuggling, called for a further reduction below the rates sanctioned by Treaty. Such articles were cabinet-makers' woods, cocoa, chocolate, cinnamon, spices, pepper, pig and bar iron, raw and cast steel, almonds, dried plums and raisins, wearing apparel, machinery, fish, earthenware, rice, certain fabrics of cotton wool and flax. These latter were now reduced to an uniform rate of 10 per cent. The aggregate modifications of the Tariff embodied in the 2nd Article of this Law are estimated to entail a loss of 500,000 francs to the revenue.

13. The 3rd Article of the Law concerns the *export duty on rags*, a matter seriously interesting the English paper industry. Before the Treaty of 1861 this article was absolutely prohibited from export. The prohibition was replaced, excepting as regards some States which refuse to grant reciprocity, by the following export duties:—

Rags, of wool, unmixed	Free.
Ditto, of every other kind, and paper paste	12 frs. per 100 kilos.
Old ropes, whether tarred or not ..	4 frs. „ „

This régime drew forth many petitions from the rag

merchants on one side, praying for a total repeal of the duty, on the other from the paper-makers praying for its maintenance. The matter was referred by the Chamber to its permanent Commission of Industry, which reported in favour of a gradual reduction and a final repeal of the duty in five years. This solution has been adopted, but the period of transition has been reduced to three years. The export duty has been reduced in three annual stages to 9 francs, 6 francs, and 3 francs successively, and is to cease entirely at the end of 1867. The export duty of 4 francs on old cordage was repealed at once.

14. *The 4th Article repeals the Law of* 1839 *granting preferential duties to certain articles* the produce of the detached portions of Luxemburg and Limburg, now subject to the King of the Netherlands, viz., earthenware, pig iron, fruit, woollens, and corn. This preferential régime was established in 1839, in order to save the manufacturing interests of the border populations, especially of Luxemburg, which were exposed to ruin by their sudden separation from Belgium by a Customs barrier drawn through the heart of these two provinces, in virtue of the Treaty of 1839. Since that period the situation has completely changed and all the motives of the Law of 1839 have ceased to exist. The Grand Duchy has been extricated from its former state of isolation by roads, railways, and its annexation to the German Zollverein. It, therefore, no longer needs the Belgian market for its manufactures, having acquired another much more extensive one.

15. In execution of the above law, the *Tariff has been entirely recast,* and a new edition of it has been promulgated *by Royal Arrêté of* 30*th March,* 1866. By this Tariff an immense number of articles are now subjected to an *ad valorem* import duty, generally fixed at 10 per cent. *The mode of valuing goods for duty* is open to some criticism. The basis now adopted is the value of the goods at the "place of origin," added to the expense of carriage, insurance, and commission. If the Custom-house considers the declared value insufficient, it may purchase the goods at an advance of 10 per cent. on the declared value. The importer has the right to claim a valuation by two "experts," and the Custom-house may exercise the same right instead of its right of purchase ("droit de préemption"). If the valuation of the "experts" does not exceed the declared value by 5 per cent. then the latter shall be taken

as the basis on which to assess the duty. If the valuation exceeds the declared value by more than 5 per cent., then the Custom-house may either exercise its right of "préemption," or charge duty on the value affixed by the "experts." If the latter exceeds the declared value by more than 10 per cent., a fine of 50 per cent. is added to the duty.

16. *This system is a fruitful source of contention*, the value being deduced from four utterly inscrutable and fluctuating elements, viz., the cost of purchase, carriage, insurance, and commission. The only safe basis on which to assess an *ad valorem* duty seems to be the market value on the spot, which can easily be tested by a public sale. In fact, the law seems to admit this principle in practice though not in theory, as it allows the Customs to buy in goods at an advance of 5 per cent. on the declared value. This declared value is supposed, as stated above, to represent the actual cost price of the goods, by no means their acquired value in their new market. A margin of 5 per cent. cannot possibly cover the average difference of price between the exporting and the importing markets, and would be a small profit allowed to a merchant for all his risks. Unless, therefore, he raises his declaration of value to the full standard of the place of importation, he is exposed to lose the main profits of his venture, and perhaps even to incur a fine.

17. The Belgian Tariff is arranged in alphabetical order, and should therefore, if translated into another language, be also rearranged. This I have done in the following abstract, not, however, on the alphabetical system, but on the *principle adopted by the official Returns of the Board of Trade*, presented to the House of Commons in 1863, which I presume to be that most convenient for purposes of comparison. All the articles of the Tariff on which duty is charged are divided into ten classes, according to their nature. The duties are expressed in Belgian and English weights and currencies. *The fifth column shows the approximative ad valorem effect* of each specific duty, as nearly as I could elicit the same from the latest official valuations of the average prices of 1864. It must, however, be remembered that all such valuations, which serve, not as a basis on which to assess the duty, but for the sole purpose of statistical returns, can be only approximative and may be very deceptive. Not that in Belgium these

valuations are carelessly effected. The contrary is the case, as they are based, not on the simple declarations of the merchants, but on an official Tariff, which is annually revised by the Ministry of Finance, stating the average market prices of every article during the previous year. The *ad valorem* effect of the new Tariff exposed in the fifth column of the Tables can only be critically accurate as applied to the prices ruling in 1864, and must rise or fall in an inverse ratio with the market prices of goods.

ABSTRACT of the Belgian General Tariff, of Import Duties, as established by the Royal Arrêté of 30th March, 1866, reduced to their equivalents in English Weights or Measures and Money, divided into ten parts, according to the classification adopted for the Board of Trade Returns of 1863.

PART I.—Yarns and Threads.*

	Belgian.		In English.				*Ad valorem* effect.
	Basis.	Duty.	Weights.	£	s.	d.	
	Kilos.	Fr.					Per cent.
Cotton yarns,† unbleached or bleached, measuring per ½ kilogramme—							
20,000 mètres or less	100	15	Cwt.	0	6	1	
20,000 „ to 30,000	„	20	„	0	8	1	
30,000 „ to 40,000	„	30	„	0	12	1	1·$\frac{81}{100}$
40,000 „ to 65,000	„	40	„	0	16	2	
Above 65,000 mètres	„	10	„	0	4	0½	
Dyed or warped—							
20,000 mètres or less	„	25	„	0	10	2	
20,000 „ to 30,000	„	30	„	0	12	2	
30,000 „ to 40,000	„	40	„	0	16	2	2
40,000 „ to 65,000	„	50	„	1	0	2	
Above 65,000 mètres	„	10	„	0	4	0½	
Yarns of flax, hemp, or jute, measuring per kilogramme 20,000 mètres or less—							
Not twisted nor dyed	„	10	„	0	4	0½	1·8
Twisted or dyed	„	15	„	0	6	1	2·3
Measuring per kilogramme, more than 20,000 mètres—							
Not twisted nor dyed	„	20	„	0	8	1	2
Twisted or dyed	„	30	„	0	12	2	2
Woollen yarns‡—							
Not twisted nor dyed	„	20	„	0	8	1	2½
Twisted or dyed	„	30	„	0	12	1	3·1

18. *Cotton yarns* are now effectually reduced to a degree

* String measuring less than 2 millimètres (0·078 of an inch) in diameter is treated as thread; but if thicker, as cordage, which is free.

† Cotton yarns mixed with other materials will pay as cotton yarns, if the cotton predominates in weight.

‡ This includes yarns of goats, alpaca, llama, vicuna, and camels' hair.

which leaves little to complain of, excepting the complication of the Tariff. It is impossible to estimate the incidence of each of the ten rates of duty on every particular class of goods. The official values for 1864 are 11 francs per kilo., on all yarns unbleached and unwarped, and 12 francs on bleached and warped. These designations do not correspond exactly with the divisions of the new Tariff. The reduced duty only came into operation on the 1st of October last. The great bulk of the imports are very fine cotton yarns not spun in Belgium at all, and therefore admitted at the nominal rate of 10 francs per 100 kilogrammes. This brings down the *ad valorem* incidence to $1\frac{9}{10}$ and 2 per cent. on cotton yarns in general; but it will be found on a closer analysis that the coarse yarns which pay from 15 to 30 francs are much more heavily taxed than the above rates, or than the fine yarns which pay 40 francs. In comparing the *Belgian and French Tariffs*, the latter will be found to be much more complicated and protectionist in its character. There are fifteen rates of duty instead of ten, on single unbleached yarns, which on the four lowest qualities are the same as in Belgium, viz., 15, 20, 30, and 40 francs; but, whereas 40 francs is the maximum rate of the Belgian Tariff, the French Tariff rises to 300 francs on the finest yarns, and to 415 francs on dyed and warped.

19. *Linen yarns* pay four different rates, varying from 10 to 30 francs per 100 kilogrammes, equivalent to $1\frac{8}{10}$ and $2\frac{3}{10}$ per cent. on the value as assessed in 1864. These rates are certainly not excessive. Those on twisted and bleached yarns come to $4\frac{7}{10}$ per cent. *The duties on woollen yarns* are simplest of all, being only twofold, amounting to about 2 and 3 per cent. of the value. Here again the Belgian distinguishes itself favourably from the French Tariff, which taxes the lowest qualities of linen yarns 15 francs, instead of 10 francs per 100 kilogrammes, and which rises to prohibitive rates on the finer qualities, rates again further enhanced by 30 per cent. on twisted and dyed goods. As for woollen yarns, the same observations hold good, without any exception. The minimum duty, 25 francs, is higher than in Belgium. The rates are more numerous and, therefore, more vexatious to trade, being also, unlike the Belgian duties, based on the fineness of the yarn.

Part II.—Woven Manufactures.

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
		Francs.			Per cent.
Cotton tissues: plain, twilled, and ticks. Unbleached:—					
1st class, weighing 11 kilogrammes and above per 100 square mètres—					
Of 35 threads and less to 5 millimètres square	100 kilos.	50	Cwt.	0 19 10	9
Of 36 threads and above Do. (Square of 0·1968 inches)..	,,	80	,,	1 11 8	..
2nd Class, weighing from 7 to 11 kilogrammes per 100 square mètres—					
Of 35 threads and less to 5 millimètres square	,,	60	,,	1 3 9	12¾
Of 36 to 43 threads, &c.	,,	100	,,	1 19 8	11½
Of 44 threads and above	,,	200	,,	3 19 4	20
3rd class, weighing from 3 to 7 kilogrammes per 100 square mètres—					
Of 27 threads and less per 5 millimètres square	,,	80	,,	1 11 8	14½
Of 28 to 35 threads	,,	120	,,	2 7 7	16
Of 36 to 43 threads	,,	190	,,	3 15 4	19
Of 44 threads and above	,,	300	,,	5 19 0	16¼
Bleached. 1st class, as above—					
Of 35 threads and less to 5 millimètres square	,,	57·50	,,	1 3 3	13
Of 36 threads and above	,,	92	,,	1 16 6	7½
2nd class—					
Of 35 threads and less	,,	69	,,	1 7 4	13
Of 36 to 43 threads	,,	115	,,	2 5 8	12½
Of 44 threads and above	,,	230	,,	4 11 3	20½
3rd class—					
Of 27 threads and less	,,	92	,,	1 16 6	12½
Of 28 to 35 threads	,,	138	,,	2 14 9	16½
Of 36 to 43 threads	,,	218·50	,,	4 6 6	19
Of 44 threads and above	,,	345	,,	6 16 10	20½
Dyed. 1st class—					
Of 35 threads and less per 5 millimètres square	,,	75	,,	1 9 9	17
Of 36 threads and above	,,	105	,,	2 1 8	..
2nd class—					
Of 35 threads and less	,,	85	,,	1 13 9	11½
Of 36 to 43 threads	,,	125	,,	2 9 7	9
Of 44 threads and above	,,	225	,,	4 9 4	..

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
		Francs.			Per cent.
Cotton tissues: plain, twilled, and ticks. Dyed—					
3rd class—					
Of 27 threads and less	100 kilos.	105	Cwt.	2 1 8	10¼
Of 28 to 35 threads	,,	145	,,	2 17 6	13½
Of 36 to 43 threads	,,	215	,,	4 5 4	..
Of 44 threads and above	,,	325	,,	6 8 11	..
Printed cotton tissues—plain, twilled, and ticks:—					
Without distinction of class	100 francs	15	Ad	valorem.	15
Velvets made as silk velvets (velveteens)—					
Unbleached	100 kilos.	85	Cwt.	1 13 9	..
Dyed or printed	,,	110	,,	2 3 8	..
Other kinds—corduroys, moleskins, &c., unbleached	,,	60	,,	1 3 10	..
,, ,, ,, dyed or printed	,,	85	,,	1 13 9	..
*Quiltings, dimities, stripes and checks, damasks and brilliants, weighing 3 kilogrammes, or more, per 100 square mètres	100 francs.	15	Ad	valorem.	15
Lace and blond	,,	5	,,	,,	5
*Unenumerated	,,	10	,,	,,	10
Tissues of linen, hemp, or jute—					
Lace	,,	5	,,	,,	5
All others	,,	10	,,	,,	10
Tissues of wool—					
Shawls of Indian cashmere	,,	5	,,	,,	5
All other tissues, including carpets	,,	10	,,	,,	10
Or at the option of the importer	100 kilos.	260	Cwt.	5 3 2	..
†Tissues of silk—					
Tulle and lace	100 francs.	5	Ad	valorem.	5
All others	100 kilos.	300	Cwt.	5 19 0	..
All other tissues unenumerated	100 francs.	10	Ad	valorem.	10

* Those tissues termed quiltings, dimities, &c., weighing less than 3 kilogrammes per 100 mètres, are rated as "cotton tissues, unenumerated."
† Mixed tissues of cotton and silk, in which cotton predominates, may be entered as tissues of cotton or of silk, at the option of the importer.

20. *The cotton duties are now the principal blemish remaining in the Belgian Tariff.* These tissues are subjected, according to their kind, to two different systems of taxation, viz., by weight or by value. The first system based on weight is applied to velvets, plain and twilled cottons and ticks ("coutils"), weighing three or more kilogrammes per 100 square mètres. The second system of tariffication is applicable to all other qualities. The duties on calicoes range from 50 to 345 francs per 100 kilogrammes, unbleached, bleached, and dyed cotton fabrics coming under the designations of "unis, croisés, coutils" (plain, twilled, ticks), are taxed by weight after a most complicated scale of 31 rates of duty graduated on the lightness and fineness of the texture. These qualities are tested by the aid of the "compte fils," an instrument combining a compass and a microscope. It is applied to two places of the cloth. The threads are counted in the direction of the warp and of the weft. The average of the two figures is taken as the exponent of the fineness and as the basis for duty. This system was adopted in the Franco-Belgian Treaty of 1861, in deference to the insistence of the French negotiators. The *ad valorem* incidence of this scale would not appear to be excessive if the official valuations of prices are to be relied on, and would amount to $4\frac{1}{10}$ per cent. on unbleached, 6 per cent. on bleached, and 4 per cent. on dyed cotton cloths. On this section, however, I have obtained further and more accurate information from a Brussels merchant, proving that the official valuations are too high, being applicable only to the finer qualities in each class, consequently that the incidence of the Tariff is understated. Thus raw unbleached cotton cloth is valued all round at 15 francs per kilogramme for 1864, though it is divided by the Tariff into nine different qualities, and subjected to eight different rates of duty, rising from 50 to 300 francs, according to fineness. The aggregate duties levied on all imports of this article (raw unbleached cottons), amounted to $4\frac{1}{10}$ per cent. of the supposed value in 1864, according to official returns. My private information convinces me that the *duty on some qualities of this article now rises as high as* $14\frac{1}{2}$, $16\frac{1}{2}$ *and* 20 *per cent.*, the present prices ruling much lower than those of 1864.

21. *Printed calicoes pay* 15 *per cent. ad valorem,* as also the thicker qualities of quiltings (piqués), dimities ("basins"), stripes and checks, damask and brilliants. The

finer qualities of the same goods, not competing with home manufactures, pay only a duty of 10 per cent. The 23rd Article of the Anglo-Belgian Treaty of 1862 fixed a specific duty of 150 francs per 100 kilogrammes on printed cottons. The new Tariff ignores this duty and mentions only the *ad valorem* duty of 15 per cent. At the official valuation of cotton prints, viz., 20 francs per kilogramme, the specific duty of 150 francs would be equivalent to 7½ per cent. *ad valorem*, therefore only half the amount imposed by the Tariff. It is right that *the trade should be made aware of this circumstance*, and should claim the specific duty whenever they may find it more advantageous, and not the oppressive charge of 15 per cent. *ad valorem*, which alone will be applied by the Customs. The specific duties by weight are not applicable to fabrics of cotton mixed with other materials, but *ad valorem* duties alone. The Belgian Tariff on cottons is almost identical in its classification and duties with that of France, excepting only that the finer fancy tissues, as also the finer description of quiltings, dimities, &c., and mixed tissues of cotton and silk in which cotton predominates, are charged 10 per cent. instead of 15 per cent. as in France. On the whole cotton fabrics are treated in both countries with particular jealousy, arising in Belgium from tenderness for the powerful cotton interest of Ghent, the great stronghold of the protectionist system; and thus British trade is exposed to a treatment very far from that of reciprocity.

22. *The Tariff on linen fabrics* is simple and unexceptionable, being fixed generally at 10 per cent., excepting on lace, which is still more favourably treated. It contrasts favourably with that of France, which still consists of specific rates based on the number of threads in the space of 5 millimètres. Those few articles which in France are taxed *ad valorem* pay 15 per cent. instead of 10 per cent. as in Belgium. This being the staple manufacture of Belgium, the imports of linens are of course slight, being chiefly cambrics and lawns.

23. *Woollen fabrics of all kinds*, including felt, blankets, carpets, hosiery, haberdashery, tapes, ribbons, and list shoes, pay 10 per cent. *ad valorem*, or at the option of the importer a specific duty of 260 francs per 100 kilogrammes. Indian cashmere shawls pay only 5 per cent., as not competing with any native manufacture. Notwithstanding the vast native woollen industry, the imports of woollens are in

value the most considerable of all woven goods, the amount imported in 1864 having been 1,125,000 kilogrammes in weight, and 980,000*l.* in value, of which about half came from England.

24. *Tissues of Silk* pay a specific duty of 300 francs per 100 kilogrammes. As they are valued officially at 150 francs per kilogramme, this duty would amount to a tax of 2 per cent. *All other tissues* unenumerated, including those of horsehair, cows' hair, and of vegetable fibres other than flax, hemp or jute, pay 10 per cent. *ad valorem.* Mixed tissues of cotton and silk, in which cotton predominates, may be declared as silk, or as cotton tissues at the choice of the importer. The weight of silk fabrics imported in 1864 was 128,192 kilogrammes, valued at 788,360*l.*

PART III.—Iron and Steel.

	Belgian.		In English.				*Ad valorem* effect.
	Basis.	Duty.	Weights.	£	*s.*	*d.*	
	Kilos.	Fr.					Per cent.
Iron—							
Pig and old	100	0·50	Cwt.	0	0	2·71	6
Wrought, hammered, drawn or rolled	,,	1	,,	0	0	4·83	6·6
Wrought, manufactures of ..	,,	4	,,	0	1	7·32	8
Cast, manufactures of	,,	2	,,	0	0	9·76	5
Steel—							
Raw cast	,,	·50	,,	0	0	2·41	..
In bars, sheets, or wire	,,	1	,,	0	0	4·83	¾
Manufactures of, including tools ..	,,	4	,,	0	1	7·32	..
Tinned plates—							
Not manufactured	,,	3	,,	0	1	2½	5
Manufactured	100 fr.	10	Ad valorem.				10
Machinery—							
Of cast iron	100 kil.	2	Cwt.	0	0	9·76	3¼
Of wrought iron or steel ..	,,	4	,,	0	1	7·32	6⅝

25. *The new Tariff on iron and steel is all that can be desired,* and contrasts favourably with that of France, both in amount and simplicity. Including machinery it only occupies eleven lines, and consists of only six different duties. Pig and old iron pay only one single rate of ½ a franc per 100 kilogrammes, while in France they still pay two different rates, of 2 francs, and 2 francs 75 centimes, according to quality. Since 1856, the Belgian duty has been gradually reduced from 5 francs to 50 centimes, which is half the rate stipulated by Treaty. These successive reductions have not affected the production of iron in Belgium, which increases at an enormous ratio. The imports of pig iron from England are also on a large scale

and may be expected to increase materially. Hitherto more than half of these imports have been certain special qualities of pig and scrap iron, admitted free of duty to be worked up in bond for exportation under the form of sheet iron. The Belgian iron trade has for some years entered upon a course of salutary transformation. The export of wrought iron is fast becoming its principal object, and has tripled in three years. Unfortunately the operatives have become tainted with an unruly spirit, which has just broken out in the shape of riots and bloodshed during the month of February last.

26. The reduction of duty on foreign pig iron was an obvious boon to the great iron works now more interested in the working than in the production of the metal. At the same time, as a consequence of this reduction, the *duties on wrought iron and on manufactures of cast iron* were proportionately reduced from 3 and 4 francs to 1 and 2 francs, equivalent to 4 or 5 per cent. on the former, and 8 or 10 per cent. on the latter, article. Iron tubes simply drawn or welded are classed as wrought iron, but, if tapped or worked in any way, as manufactures of wrought iron. Steel, whether rough, cast or manufactured, is taxed exactly as iron. The duties on machinery are reduced to the same rates as those on all manufactures of the corresponding metals, a reform highly important for the purpose of preventing difficulties of classification. Anchors and chains for ships are admitted free of duty on certain conditions specified in a Law of 19th June, 1856.

Part IV.—Other Metals.

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
Copper and Nickel—		Fr.			Per cent.
Wrought, drawn, or rolled ..	100 kil.	10	Cwt.	0 4 0	3½
Foreign coin	,,	60	,,	1 3 9	12
Manufactures of	100 fr.	10	Ad	valorem.	10
Lead, Tin, and Zinc—					
Manufactures of	,,	10	Ad	valorem.	10
Gold and Silver—					
Manufactures of *	,,	5	Ad	valorem.	5
Machinery, of copper or any other metal than iron or steel	100 kil.	12	Cwt.	0 4 9	2⅜

27. *The duties on all metals* in the raw state other than iron and steel are now entirely abolished. Sheet tin, lead,

* Including jewellery and watches.

and zinc are also declared free. Rolled copper pays a moderate duty amounting to $3\frac{1}{2}$ per cent. on the estimated value. All wares and manufactures of the above four metals are taxed 10 per cent. *ad valorem*, excepting machinery. This is subjected to a specific duty of 12 francs per 100 kilogrammes, supposed to be equal to $2\frac{2}{3}$ per cent. All wares made of the two precious metals, including jewellery and watches, are taxed only 5 per cent. This is, however, exclusive of the "*droit de marque et de garantie*," applicable to all gold and silver wares whether native or imported, and amounting to 20 francs per hectogramme on gold, and 1 franc on silver. A Bill for the revision of this duty is now before Parliament, and has excited some opposition on the part of the goldsmiths. On comparing these duties with the corresponding sections of the French Tariff, the Belgian régime would seem to be on the whole the more moderate and simple of the two. The system of specific duties is still retained in France on all manufactures of metals, and must of course be very various in its *ad valorem* effects on different articles. This effect will, however, certainly be lower in many cases than the 10 per cent. Belgian duty. On the other hand, the French duties on copper machinery amount to 20 and 30 francs, instead of 12 francs, as in Belgium.

PART V.—Hides, Skins, Leather, India-rubber, and Gutta-Percha.

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
		Fr.			Per cent.
Skins—					
Of goats or sheep tanned, with the hair; or of kids tanned with the hair	100 kil.	5	Cwt.	0 2 0·13	$\frac{9}{10}$
Of all kinds, tanned and curried ..	,,	15	,,	0 6 1	..
Otherwise prepared	,,	30	,,	12 2	$4\frac{3}{4}$
Leather wares	100 fr.	10	Ad	valorem.	10
India-rubber and gutta-percha—					
Manufactures of	,,	10	,,	,,	10

28. The duties on *raw hides and skins* have long been abolished. Consequently, Antwerp is become a principal emporium for this produce. The duty of 5 francs on tanned goat and sheep skins, and on kid skins tanned with the hair, all raw materials for the glove and other trades, is moderate enough, in fact little more than nominal.

Tanned and curried skins, including boot-leather, pay 15 francs. *The duty of* 30 *francs on leather* which has undergone any other process than tanning and currying, is supposed to amount to $4\frac{3}{4}$ per cent. on an average, but must often really be much heavier. All manufactures of leather, including furs, gloves, shoes, saddlery, trunks, portfolios, as also manufactures of *india-rubber and gutta-percha*, are taxed as usual 10 per cent. These two latter gums in their raw state or in sheets are admitted free. The French duty rises to 45 francs, and 80 francs on some kinds of leather, but that on gloves is only 5 per cent., therefore one-half the Belgian rate.

PART VI.—Earthenware, Porcelain, Glass, Chemicals, and Perfumery.

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
		Fr.			Per cent.
Earthen and Stoneware—					
Common	100 kil.	1·30	Cwt.	0 0 $7\frac{1}{4}$	10
Fine, and porcelain	100 fr.	10	Ad	valorem.	10
Glass and Glass-wares—					
Common, of green glass	100 kil.	1	Cwt.	0 0 $4\frac{3}{4}$	$12\frac{1}{2}$
All other kinds, including window-glass .. .. .. ,,	100 fr.	10	Ad	valorem.	10
Chemicals—					
Carbonate of soda	100 kil.	3	Cwt.	0 1 $2\frac{1}{4}$	15
Sulphate and sulphite of soda ,,	,,	1·50	,,	0 0 7	$7\frac{1}{2}$
Perfumery of all kinds	100 fr.	10	Ad	valorem.	10

29. *The duty on fine earthen and stone-ware* was previously 15 per cent., while that on porcelain was 10 per cent., a system all to the disadvantage of the poorer class of consumers. There seemed to be no just motive for granting to the coarser article this excess of protection. Both kinds are now brought to an uniform rate of 10 per cent. Baked clay, including bricks, tiles, draining tiles, &c. is free. *Common pottery, varnished or not*, including gas retorts, crucibles and tobacco pipes, pays a specific duty of $1\frac{1}{2}$ francs per 100 kilogrammes. The French Tariff is in some points more liberal, as it admits retorts, crucibles, tobacco pipes, common earthenware, and chemical utensils free of all duty. On the other hand common stoneware is there charged 4 francs per 100 kilogrammes, fine stone, and earthenware 15 per cent. *ad valorem*, both rates much higher than the Belgian.

30. ***All kinds of glass*** are now subject to one common

duty of 10 per cent. *ad valorem*, with the single exception of common green bottles and bottle glass, which pay a duty by weight, of 1 franc, supposed to be equal to 12½ per cent. The French Tariff comprises four specific rates, and is therefore more complicated than the Belgian, and somewhat more onerous, at least on bottles, which are charged 1 franc 30 centimes per 100 kilogrammes.

31. The duties on chemical products have, with the exception of those on *soda*, been all swept away. This great raw material of industry is, strange to say, *saddled with heavy protective duties*, viz. 1½ francs on sulphates and sulphites, 3 francs on carbonate of soda. The great bulk of the imports are carbonates imported from England, valued at 20 centimes per kilogramme. At this rate the duty amounts to 15 per cent. A strong effort was made by the glass-making interest to obtain a total repeal of the duty on sulphates, a duty which produces next to nothing, for the great mass of imports are exempted from duty altogether on the importer giving a bond to export the same in the shape of glass, under Article XL of the Law on Entrepôts. Carbonate of soda is less favourably treated, paying double the duty of sulphate, and being debarred from the privilege of importation in bond. No powerful interest was hereby affected, and consequently no voice was raised in favour of carbonate, but equity and the interests of British trade both call for its reduction. The Central Section of the Chamber has demanded a reduction on sulphate; but the Government has refused to yield.

Part VII.—Paper, Stationery, and Books.

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
		Fr.			Per cent.
Paper-hangings	100 kil.	8	Cwt.	0 3 2	5
All other kinds	,,	4	,,	0 1 7	..
Sealing-wax, ink, pencils, and pens ..	100 fr.	10	Ad	valorem.	10

32. *The paper duty* was reduced by the Treaty with the Zollverein from 8 francs to 4 francs per 100 kilogrammes, excepting *that on paper-hangings, which is still maintained at its former rate of* 8 *francs.* According to the statistics of 1865, the paper-hangings imported were worth 1 franc 63 centimes per kilogramme. At this rate the duty would only amount to about 5 per cent., certainly not excessive

and the duty on writing and printing paper would be little more than nominal. The principal observation suggested by the present state of the Law is that room paper, the heavier and coarser article, is charged with a duty twice as heavy as that on writing and printing papers. The duty in France is 8 francs on all papers, therefore double the Belgian duty on room paper.

PART VIII.—Oils, Minerals, Stones, and Earths.

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
		Fr.			Per cent.
Candles, of all kinds	100 fr.	10	Ad	valorem.	10
Soap, Do.	100 kil.	6	Cwt.	0 2 4½	5½
Stones—					
Polished or carved	100 fr.	10	Ad	valorem.	10
Roofing slates (number)	1,000	4	1,000	0 3 2	16
Coal	Ton.	1	Ton.	0 0 9½	7 1/10

33. Everything in Part VIII of the English Tables is now free of duty, excepting the above five articles. Four of these duties cannot be said to be exorbitant. *The duty on roofing slates*, amounting to 16 per cent. of the official value, is certainly protectionist in its incidence, yet still admits of large quantities being annually imported from France. The duties on seed-oil, oil-cake, grease, naphtha, turpentine, resin, pitch, cement, fire-clay, and mill-stones have all been abolished, here as well as in France, with the single exception in the latter country of that on seed-oil. *Candles and soap* are also taxed at the same rates in both countries. The coal duty of 1 franc per ton is said to represent about 7 per cent. of the value, and is 20 centimes lower than in France.

Part IX.—Food and Stimulants.

	Belgian.		In English.			*Ad valorem* effect.
	Basis.	Duty.	Weights.	£	s.	d.	
		Francs.					Per cent.
Cattle	100 kilos.	1	cwt.	0	0	$4\frac{3}{4}$	
Sheep, lambs, swine	per head.	0·40	per head.	0	0	$3\frac{3}{4}$	
Meat, fresh or salted	100 kilos.	1·20	cwt.	0	0	6	$1\frac{1}{10}$
Fish of all kinds, including lobsters and oysters*	,,	1	,,	0	0	5	$\frac{8}{10}$
Butter	,,	5	,,	0	2	0	$1\frac{3}{4}$
Cheese	,,	10	,,	0	4	0	7
Cereals—							
Grain of all kinds, peas, lentils, and beans	,,	0·60	,,	0	0	3	$2\frac{1}{2}$ wheat.
Groats, pearl barley, flour, &c.	,,	1·20	,,	0	0	6	$3\frac{7}{10}$ flour.
Bread, biscuit, macaroni, &c.	,,	1·20	,,	0	0	6	
Rice—In the husk	,,	1	,,	0	0	5	4
,, Cleaned	,,	1·50	,,	0	0	$6\frac{1}{2}$	3
Fruit—							
Almonds	,,	20	,,	0	8	0	13
Lemons, oranges, and figs	,,	6	,,	0	2	5	18 figs.
Prunes and raisins, dried	,,	15	,,	0	6	0	30
Unenumerated	100 francs.	10	Ad valorem.				10
Preserved Food—							
In spirits or sugar	100 kilos.	60	cwt.	1	3	9	22
All other kinds	,,	10	,,	0	0	4	4
Cocoa, raw	,,	15	lb.	0	0	$0\frac{6}{10}$	10
,, prepared, including chocolate	,,	30	,,	0	0	$1\frac{3}{10}$	6
Coffee, roasted	,,	17·50	,,	0	0	$0\frac{3}{4}$	
,, all other kinds	,,	13·20	,,	0	0	$0\frac{56}{100}$	8 and 6
Tea	,,	90	,,	0	0	$3\frac{87}{100}$	13·8
Sugar—							
Raw sugar, Excise duties—1st class, No. 15 to No. 19, exclusively	,,	46	cwt.	0	18	3	
,, ,, 2nd class, No. 10 to No. 15 ,,	,,	45	,,	0	17	10	
,, ,, 3rd class, No. 7 to No. 10 ,,	,,	43	,,	0	17	0	Average, 60.
,, ,, 4th class, below No. 7							
Molasses—Containing 50 per cent. or more of saccharine; and syrups containing any crystallizable sugar	,,	40	,,	0	15	10	

* Other shell fish are exempt from duty.

	Belgian.		In English.		*Ad valorem* effect.
	Basis.	Duty.	Weights.	£ s. d.	
Sugar—		Francs.			Per cent.
Molasses—Not crystallizable; Customs duties	100 kilos.	15	cwt.	0 6 1	37½
Refined—Candy	,,	56·57	,,	1 2 5	
,, Loaf	,,	52·87	,,	1 0 11	66
,, Sugars of No. 19 and above	,,	52·87	,,	1 0 11	
Liquorice juice	,,	10	,,	0 4 0	4½
Honey	,,	12	,,	0 4 9	15
Salt—					
Raw: Excise duty	,,	18	,,	0 7 2	450
Refined: Customs duty	,,	40·70	,,	0 16 5	581
Spices	100 francs.	15	Ad valorem.		15
Tobacco—					
In stalks	100 kilos.	8·40	lb.	0 0 0·36	28
Not manufactured	,,	13·20	,,	0 0 0·56	8
Manufactured—Cigars	,,	258	,,	0 0 11	10
,, Other kinds	,,	42	,,	0 0 1·84	21
Distilled Liquors—					
Brandies of every kind, in barrels, of 50 degrees or less—Dutch	Per hectolitre of 22 gallons.	47·50	gallons.	0 1 8½	98
,, ,, ,, ,, All others		42·50	,,	0 1 6½	87
,, ,, ,, for each degree above 50°—Dutch		·95	,,	0 0 0$\frac{4}{10}$	
,, ,, ,, ,, All other		·85	,,	0 0 0$\frac{36}{100}$	
,, ,, in bottles; and liqueurs of every degree	,,	85	,,	0 3 0½	60
Other spirituous liquors*	,,	60	,,	0 2 1½	15
Wine—†					
In cask, including Excise duty, 22·50 francs	,,	23	,,	0 0 9¾	25
In bottle ,, ,,	,,	24	,,	0 0 10¼	6
Beer—‡					
In cask	,,	6	,,	0 0 2$\frac{6}{10}$	30
In bottle	,,	7	,,	0 0 2$\frac{9}{10}$	17

* This only applies to alcoholic liquors not used as beverages; such as tinctures, balms, spirits, and perfumes, if imported in bottles containing more than half a litre. If these liquors are imported in smaller bottles, they are, according to their nature, treated as "drugs," which are exempt from duty; or as "perfumery," which pays 10 per cent.

† Liquors containing more than 21 per cent. of alcohol (about 35 degrees of proof spirit) are treated as "distilled liquors."

‡ This includes vinegar, and all other fermented beverages except wine.

34. Most of the duties in this section have been reduced to moderate, some even to nominal rates, others totally abolished. *The only exceptions are fruit, tea, sugar, honey, salt, spices, tobacco, spirits, wine, and beer,* which will all be found to pay more than 10 per cent. of their value. Fish of all kinds, fresh and salted, is now reduced to a moderate uniform rate of 1 franc per 100 kilogrammes, which, however, still leaves one grievance to be complained of, the local restrictions ("droit de minque") on the sale of fish in various Communes. Cheese and rice are two other articles of food now moderately taxed and largely imported. Grain of all other kinds pays a duty still more moderate, of 3*d.* per cwt.

35. *Fruit is an article still heavily taxed,* viz., at the rate of 10 per cent. on the value; but almonds, lemons, oranges, figs, prunes, and raisins pay specific duties, amounting to a much greater proportion of their value. The duty on fresh fruit brings in little or nothing, as Belgium is more an exporter than an importer of this article, but it is found to be a great impediment to the transit trade. The exports of Belgian fruit to England are the first of all articles in the order of weight, having actually amounted in 1863 to the enormous figure of 19,000 tons, chiefly apples and pears.

36. *Coffee is the most productive of all articles in the Belgian Tariff of Customs duties,* yet it only pays about $\frac{1}{2}d.$ per lb. This moderate duty produces about 100,000*l.* sterling. Most of that consumed in Belgium is Java coffee, imported from Holland, valued officially at 9*d.* per lb., all other coffees being valued at 7*d.* The duty would therefore represent about 8 and 6 per cent. of the value. The gross imports of 1864 for home consumption were 20,667,247 kilogrammes, of a value of 800,000*l.*, paying a revenue of 2,547,000 francs. Tea is much more heavily taxed, about 4*d.* per lb., and is very little consumed, the imports of 1864 having been only 61,700 kilogrammes.

37. *The taxation of sugar* has been revised, and the four types of quality have been unwillingly adopted by Belgium. The French "surtaxe" of 2 francs on foreign beet root sugar having been repealed, the Belgian import duty of 1 franc 20 centimes has, in accordance with the Convention of 8th November, 1864, been withdrawn. Instead of the uniform excise duty of 45 francs, raw sugar imported pays duty according to a scale of four rates,

graduated on the Dutch types, *i.e.*, on the whiteness of the sugar. This system is open to two objections; firstly, that whiteness and richness in saccharine are not always co-relative; secondly, that the classification of sugars of different colours becomes very arbitrary, as a difference in the nature may easily be mistaken for a difference in the intensity of the colour. This would matter little but for the alteration of the duty and the *stratagems employed by Belgian refiners to secure a bounty on export* at the expense of the Treasury, which causes an unfair competition with British refiners. The new scale of "rendements" adopted by the Convention, is not, in my opinion, sufficiently high to prevent the possibility of a bounty on export. They may very fairly represent the average results of average sugars; but they will leave a certain margin for undue profit on export in working up the best Cuban sugars. The drawback should be adjusted not at an average, but at a minimum figure, such as to preclude all idea of a bounty on export. This matter has been analyzed at some length in my Reports of 31st January, 1863, and 9th April, 1864, to which I beg to refer.

38. Of all the imports into Belgium *salt pays by far the heaviest duty in proportion to its value.* Even according to official valuation the duty of 18 francs per 100 kilogrammes, or 7*l.* 2*s.* per ton, represents 450 per cent. of the value, set down at 40 francs, but in reality a much higher per-centage. Most of the salt used in Belgium comes from the Mersey. The prices of common salt there, so far from attaining 40 francs (32*s.*) are quoted from 8*s.* to 9*s.* per ton, free on board at Runcorn. A duty of 7*l.* 2*s.* on such a value is really equivalent to a tax of 1,555 per cent. There are moreover two grievances connected with this tax specially affecting British trade, which I have already exposed in my Reports of 10th July, 1862, and 26th February, 1865, and which I think it my duty briefly to advert to here. Firstly, English "white salt" ("sel de source") is charged with a prohibitive duty as "refined" salt, though it is not refined, but only evaporated from brine. This injustice was rectified by the Treaty of 1851, but was afterwards re-enacted by a Protocol of March 5, 1852. Secondly, English salt is virtually excluded by a system of vexatious restrictions and penalties from a market which was intended by Treaty to be specially secured to it without the payment of any duty, viz.: that of the chemical works. French rock

salt ("sel de gemme"), crushed and made up in imitation of our white salt, is imported by rail direct from the mines near Nancy, without paying any duty, and without breaking bulk, to the factory door. English salt is required at the port of entry, to give a "cautionnement," for the full amount of duty as if it were refined salt, at the rate of 16*l.* per ton, about thirty-five times its value. No merchant will run such risks; consequently the French rail salt has entirely supplanted ours in this particular trade, and is gradually pushing it out of another market, the table supply of Belgium. I humbly submit that this virtual prohibition of English salt is opposed to the letter of existing Treaties.

39. *Tobacco is more moderately taxed in Belgium than in the neighbouring countries.* The duty on tobacco in the leaf without the stalks is about $\frac{1}{2}d.$ per lb., supposed to represent 8 per cent. of the value. An immense importation (5,905,000 kilogrammes) of tobacco, and an active manufacture of cigars take place at Antwerp. The importation of foreign cigars is trifling, only 33,606 kilogrammes in 1865, although the duty of 2 francs 58 centimes per kilogramme, or 11*d.* per lb., is certainly very moderate. The revenue from tobacco in 1864 amounted to 836,848 francs, on a value of 9,319,000 francs, imported, showing an average taxation of 9 per cent. on the value of the article, and 17 centimes per head of the population. In France and England this plant produces 4*s.* 8*d.* and 4*s.* 1*d.* per head of the population. The difficulty of increasing the revenue in Belgium lies in the number of small growers of tobacco, which would render the collection of an Excise duty harsh if not impossible.

40. *After the salt duties, the highest are those on spirits.* The official average incidence of the present duties on foreign spirits is 98 and 87 per cent., according as they are imported from Holland, or other countries. This differential duty against Holland is intended as a protection to the native distillers, who are more afraid of Dutch gin than of French brandy, but is hardly consistent with a neighbourly policy, or with the liberal commercial treatment enjoyed in Holland by foreign trade. The imports of spirits are small, only 6,510 hectolitres in 1863, chiefly from France, while the total estimated consumption of that year was 340,256 hectolitres of native spirits, producing a revenue of 11,657,435 francs. The consumption of this poison

increases steadily every year, and in a much greater ratio than the population. Thus it is found that in three successive periods ending in 1863, the consumption of spirituous liquors rose from 6·07 to 6·89 litres (1·33 to 1·51 gallons) per head of the population. In this return all spirits are brought to one uniform strength of 50 degrees by Gay Lussac's hydrometer, at the temperature of 15 degrees centigrade.

41. *Foreign wine pays both import and Excise duties*, together amounting to 23 francs per hectolitre on wine in barrel, and 24 francs on wine in bottle, equal to 10*d.* and $10\frac{37}{100}d.$ per gallon. The imports have increased considerably of late years under favour of these moderate duties; the Return for 1865 showed a consumption of 148,789 hectolitres (of 22 gallons) being about $\frac{66}{100}$ of a gallon per head of the population.

42. *Beer* pays, relatively to its value, much more heavily than wine, viz., 6 francs per hectolitre in cask, and 7 francs in bottle. The former tax amounts officially to 30 per cent. The imports are small, only 24,624 hectolitres in 1865, though the quantities sold as English and Bavarian beer are considerable. *The production and consumption of native beer are enormous,* 6,911,288 hectolitres (152,000,000 gallons) in 1863, actually 31 gallons per head, which is almost all consumed in the country. This is, of all consumable articles, that most profitable to the Treasury, bringing in 14,000,000 francs (560,000*l.*) per annum.

43. *On comparing the French with the Belgian Tariff*, it will be found that most of the articles in Part IX pay a higher rate of Customs duty in Belgium than in France. Such are cattle, butter, preserves, fresh or salted meat, cereals of all kinds, rice, fruit, liquorice juice, sugar, honey, salt, cheese, spirits, liqueurs, wine, vinegar, cider. Tea and beer pay exactly the same rates. It must not be forgotten, however, that the obnoxious *octroi duties* still subsist in France, and constitute a heavy additional burden on all comestibles entering towns, often higher than the Customs duty; while *Belgium has been free from this impost since* 1860, but had to submit at the same time very fairly to an increased taxation, in another shape, of the principal articles which were then relieved of local dues, viz., spirits, beer, vinegar, sugar, coffee, and wine. Only four articles of food, viz., cocoa, chocolate, coffee, and fish, pay a higher Customs duty in France.

Part X.—Miscellaneous Articles.

	Belgian.		In English.		*Ad valorem* result.
	Basis.	Duty.	Weights.	*s. d.*	
		Fr.			Per cent.
Horses—					
Other than colts	each	18	each	14 4	2·$\frac{2}{10}$
Colts (having all their sucking teeth)	,,	6	,,	4 9	1.$\frac{1}{10}$
Gunpowder	100 kil.	15	Cwt.	6 1	6
Wearing apparel, including hats ..	100 fr.	10	Ad valorem.		10
Instruments, musical	,,	6	,,	,,	6
Timber—					
For builders and cabinet-makers:					
Oak or walnut	Per cubic	1	Perload of 50	1 2	
Other woods, in bark or unsawn	mètre =	3	cubic feet or	3 6	
Sawn, above 5 centimètres thick	load 0·70	6	cubic mètres	7 0	
,, of 5 centimètres or less		9	1·415	10 6	
All other, unenumerated	100 fr.	5	Ad valorem.		5
Wooden-wares of all kinds ..	,,	10	,,	,,	10
Machinery, of wood	,,	10	,,	,,	10
Household furniture	,,	10	,,	,,	10
Carriages	,,	10	,,	,	10
Sundry products (being materials for industry)	,,	5	,,	,,	5
"Mercerie," "Quincaillerie," and Perfumery	,,	10	,,	,,	10
All other articles, unenumerated ..	..	free	..	free	..

44. The three last items only will require some brief explanation. The class of goods described as "*sundry products for industry*," includes solely "carcasses" for millinery, catgut, felt in various forms, pieces of clocks and watches, materials for making umbrellas, straw cut and prepared for tressing, felted hair for industrial purposes, keys and "mécanismes" for pianos, tresses and bindings of all kinds for hats, tresses or plaits of reed, straw, bark, esparto, &c., for door-mats. On these articles the duty is only 5 per cent.

45. The next item, "*mercerie, quincaillerie, and perfumery*," has a still wider range, including cutlery, albums, percussion caps, brass jewellery, writing slates, prepared whalebone, toys, wares of ivory, tortoise-shell, mother-of-pearl, rock-crystal, mixed metals, aluminium, amber, pasteboard, paper, papier-mâché, hair, wax, shell, horn, bone, beads, cork, rock-salt, watch-chains, seals, needle-cases, pearls, brooches, thimbles, needles, pins, belts, purses, portfolios, buttons, brushes, baskets, locks of brass and iron combined, cages, sticks, playing-cards, wigs, sealing-wax, boxes of colours, pencils, pipes (not of clay or porcelain), powder-flasks, framed prints, &c., umbrellas and parasols, flints, alcoholic perfumes in small bottles containing less than half a litre, other scents and toilet lotions not

alcoholic in bottles of any size, certain essential oils used by perfumers, pomatums, pastilles, pastes, powders, and cosmetics for the toilet, abel-mosk, tonka-beans, scented woods, &c.

46. *The following articles, besides all others enumerated, are exempt from import duty.* Ships' rigging and tackle, live animals unenumerated, arms, brooms, split wood (not oak or walnut) for staves or cases, timber for masts and spars, dye woods, raw india-rubber, printers' types, ashes, charcoal, lime, raw wax, ropes, cotton, wool, flax, jute, hemp, and silk, raw metals excepting iron, rolled tin, lead and zinc, copper sheets, rivets and nails for ships' bottoms, rags, drugs, chicory, samples, tanners' bark, packing cases, manures, iron ore and filings, ships' anchors and chains, tackle for sea fishing, yarns of silk and other fibres not enumerated, seeds, grease, hops, oil, milk, vegetables, yeast, raw animal substances, including whalebone, hair, hoofs, horns, tusks, tortoiseshell, coral, ivory, bladders, &c., vessels, works of art and of curiosity unenumerated, eggs, gold, silver, and platina not manufactured, coined metals, hides, parchment, stones in the rough, hewn or sawn, gems, shell fish excepting lobsters and oysters, baked clay, salts of soda unenumerated, chemicals unenumerated, typographical products, crops and forage, resin and bitumen (including petroleum), raw salt, sulphur, dye stuffs and colours, syrup and molasses for distillation, sail cloth, oil-cake, glass broken or powdered, surgical and scientific instruments.

47. By a *Law of 19th June*, 1856, the Government is authorized to impose "*surtaxes*" *on the import and tonnage duties* applicable to the produce or vessels of any country which excludes Belgian vessels from its coasting trade, which levies differential duties of any kind on Belgian vessels or produce, or which charges the export or transit of goods to Belgium with any special duties, formalities, or restrictions. The Government is even authorized in particular cases, when the interests of commerce and industry should require it, not only to raise the duties on but even to prohibit altogether the produce of such countries.

48. The General Customs Law of 1822 exempts from duty the *horses and carriages employed on a journey, also the luggage of travellers* which arrives with them, and which contains only wearing apparel for their own use, separate from any merchandise. Ample facilities are, moreover,

accorded, under certain conditions, by the Law of 8th August, 1835, to *parties wishing to import for their own use clothes, linen, furniture, instruments,* theatrical costumes and properties, animals, &c., intended for show, collections and curiosities of any kind, books, prints, drawings, maps, and old plate.

49. The General Law further authorizes the Government to exempt from Customs duties *goods imported by Representatives of foreign Governments,* in so far as the same privilege is accorded by the respective Governments to Belgian diplomatic Representatives. The heads of foreign Missions on their entrance into Belgium are dispensed from search and payment of duty for the luggage and other goods which they bring with them, and which they declare to be their own property. This is regulated by a circular of 25th November, 1861.

50. This is the place for a brief allusion (more than that would unduly swell this Report) to the highly valuable results of the *Law of 4th March,* 1846, *on the entrepôts. Article* 40 *of this Law enables the Government to extend the bonding system* to all kinds of taxable materials which are imported for the purpose of receiving some process of manufacture in Belgium, and are afterwards exported in a more finished state. This right of importation in bond has now been extended by Royal Arrêté to thirty-seven articles. Thus large quantities of taxable articles, such as pig iron, copper wire, yarns, cotton cloths, corn, rice, timber, paper, soda, and sugar are admitted under a bond for the duty, which bond is discharged by the export of certain proportionate quantities of bar iron, woven fabrics, printed calicoes, flour, shelled rice, planks, paper hangings, glass, and refined sugar. This measure, of course, like the Tariff in general, is directed towards the great object always in view, of providing new food for industry.

I have, &c.

(Signed) H. P. T. BARRON.

Russia.

Report by Mr. Lumley, Her Majesty's Secretary of Embassy, on the Tea Trade of Russia.

London, May 4, 1867.

The branch of commerce which I have chosen as the subject of this Report is the Tea Trade of Russia, in connection with which, for reasons which will be evident in the course of this paper, I have found it necessary to enter at some length into the question of the extensive contraband trade carried on in that country.

There is, perhaps, no article of consumption which gives greater evidence of the well-being of a nation than tea, since its consumption essentially depends on, and increases with the improved condition of the population.

In most countries the use of tea is confined to the inhabitants of towns, whose tastes are more refined, and whose wants are more considerable than are those of the rural population; England and Russia are, however, exceptions to this rule; the taste for tea in the latter country especially being developed to such an extent that it may almost be considered a passion among the lower classes. Mr. Michie, in his interesting work "The Siberian Overland Route," expresses his astonishment at the tea-drinking powers of the Russians he met on crossing the Chinese frontier into Siberia. "I verily believe," he says, "that the Russians consume more tea per head than the Chinese themselves. The 'samovar,' or tea urn, is always steaming morning, noon, and night, and the natives never cease sipping tea while there is any water left; it is as much a necessary of life with them as their daily bread, or as tobacco is to an inveterate smoker."

To any one who has resided some time in Russia this will not appear to be an exaggerated description.

Tea is served to visitors in the palace as in the humblest dwelling, at all hours of the day; it takes in Russia the place that coffee holds in Turkey; in the bazaars, merchants and traders may be seen ratifying their bargains over tumblers of tea; and when a moujik or a droschky driver begs for a "drinkgeld" he uses the term "Na tchai" for tea.

The tea shops in the towns and by the road side are filled with customers from morning till night; in St. Petersburgh alone there are 697 of these establishments in which liquid tea is sold, besides the cafés and restaurants of a superior description; the daily consumption of tea at some of these places being from 80 to 100 lbs.

They are the resort of the droschky drivers, carters, and labourers of every description; and it is not without interest to witness the orderly behaviour and polite demeanour of these poor peasants. As they enter the long room in which the tea is served, each man greets the bar-keeper, and, as he passes the sacred image, which is to be found in every Russian room, and before which a lamp is always burning, he reverently doffs his cap, and while in the room all remain uncovered. Numerous tables are ranged along the apartment, at each of which may be seen groups of six or eight sturdy moujiks wrapped in their sheepskin pelisses, which are worn with the fleece inwards, and which, no matter what the heat of the room, are seldom taken off or even opened.

A large teapot of boiling water, and a smaller one containing an allowance of tea for each man, are placed on the table; a plateful of small squares of black bread, a saucer of still smaller lumps of sugar cut like dice, one for each man, and a glass of corn brandy constitute the repast. Both teapots are generally replenished as soon as the larger is emptied, but occasionally the larger one alone is refilled and the liquid becomes tea only in name. The tea is drunk out of saucers, and the sugar is not put into the tea but is held in the mouth; some poor fellows who are still more economical will put a piece of black bread in the saucer, place a lump of sugar on the bread, pour in the tea, and after drinking two or three cups in this way, wrap the slightly diminished piece of sugar in paper and carry it away with them.

Time seems to be no object to the tea-drinkers, and at

a sitting many will take six or eight and even more cups of tea before turning the cup down in the saucer as the sign that they have had enough.

The effect of the atmosphere heated by stoves to 75° or 80° of Fahrenheit, in a low room from which the air is carefully excluded by double windows, combined with these numerous cups of hot tea, on a body wrapped in a sheep-skin pelisse, may be easily conceived. The tea-drinker, while imbibing his favourite beverage, is literally taking a modified vapour bath; some men will go on steadily drinking until they have reached a condition which is denoted by the term "Pey do tretiavo pota," to drink to the third degree or expression of transpiration, after which they will sally forth into a temperature of perhaps 20 degrees below the freezing point, and throwing themselves on their sledges, fall asleep enveloped in steam, having thus imbibed, and this no doubt intentionally, a sufficient amount of caloric to last them to the next halt, where a repetition of the tea drinking takes place on the same scale and with the same effect.

It is not without an object that I have given this description of tea-drinking among the Russian peasants. I wish to show that, however generally the taste for tea may be developed in England, it cannot for a moment be compared to the passion for tea-drinking, which is such a characteristic of all ranks of society, but especially of the lower classes in Russia.

The inference that one would naturally draw from this circumstance is, that the consumption of tea in this vast Empire of 75,000,000 of inhabitants, 50,000,000 or 60,000,000 of which might be tea consumers, must be far greater than that in England. But what are the facts?

Great Britain, with its population of less than 30,000,000, imported in 1865, 116,000,000 lbs. of tea, the deliveries for home consumption being 98,000,000 lbs., or an increase of 10,000,000 over the importation of the previous year, owing to the reduction of the duty from 1*s.* to 6*d.* per lb., while for last year the importation amounted to 139,000,000 lbs., and the deliveries for home consumption had increased to 102,000,000 lbs., equal to an average annual consumption of nearly $3\frac{1}{2}$ lbs. per head of the population.

Russia, on the other hand, with more than double the

population of the United Kingdom, imported in 1863, when the admission of tea by the European frontiers had added 10,000,000 lbs. to the supply, only 28,000,000 lbs. of tea, an average annual consumption of less than half a pound per head of a population of 60,000,000.

It is partly with the desire of ascertaining the cause of such an extraordinary disproportion that I have taken up this subject, and I trust I may be excused if the digressions to which I have been unavoidably led in the examination of a branch of commerce, which not only embraces the entire barter trade of Russia with China, but is intimately connected with that of Central Asia, should have increased this paper to an undue length.

The authorities I have consulted are almost exclusively Russian, but it is chiefly to the works of M. Tegoborski, the most distinguished writer on all questions connected with the trade and commerce of his country, that I have referred, and from them I have drawn freely that information which is nowhere else to be found so accurate or in such detail.

The Tables illustrative of the caravan trade between Russia and China, which appear in this Report, have been obligingly furnished to me from an official source, and are now published for the first time.

I am further much indebted to several gentlemen connected with the tea trade for their readiness in giving me information on a subject with which I was but little acquainted; notwithstanding this assistance, however, it is with extreme diffidence that I attempt to write what would almost seem to be a fresh chapter in the history of the commerce of the world.

In examining this branch of commerce, I have found it advisable to divide it into three parts:—

1. The tea trade by Northern Mongolia and Kiachta.
2. The tea trade by Chinese Turkestan and the Orenburg and Siberian frontiers.
3. The contraband tea trade.

I have also added, in an Appendix, a summary of the different Treaties relating to commerce concluded between Russia and China since the commencement of the trade, giving in detail however the stipulations by which the overland trade is regulated.

1. *The Tea Trade viâ Kiachta.*

There is perhaps no episode in the history of Russia more striking or romantic than that of the conquest of Siberia.

Ivan the Terrible, a suitor for the hand of our Queen Elizabeth, having given two merchants of the name of Stroganoff, letters patent authorizing them to build forts and to raise a free corps for the defence of the north-eastern frontier against the inroads of the Nogai and other Tartar tribes, these traders invited an outlawed Cossack called Yermak to come to their assistance.

Yermak complied with the request, which was accompanied with the promise of rich booty, and, in the month of June 1579, reached a blockhouse which the Stroganoffs had pushed forward to the Tobol, with 540 Cossacks and a few fire-arms.

Not satisfied with remaining on the defensive, Yermak undertook a campaign against the Tartars and Ostiaks, and, in defiance of the orders of the Czar, who threatened to hang him if he did not desist from his purpose, in the space of two years had conquered the whole country between the Tobol and the Ob; only turning back when he had reached the silent wastes of the "Tundra," the prairies of the frozen zone, at that time covered with mammoth bones and tusks, the relics of a former world, which, ever since their discovery, have been a source of lucrative traffic to the Siberian hunters, and to the Tungouse and Ostiak tribes frequenting the shores of the frozen ocean.

Yermak's conquests having gained him the favour of the Czar, he continued his victorious career; but, in 1584, during an expedition which he had undertaken with only fifty men, he was surprised, his whole force, with the exception of one man, destroyed, and he himself, while swimming to his boat, was drowned from the weight of his armour, a present from his ferocious Sovereign the Czar.

But Yermak's conquests survived him; they were followed up by other enterprizing soldiers of fortune, and in 1587, the towns of Tobolsk and Tiumen were already founded; the tribute received during that year from Siberia, amounting to 200,000 sables, 10,000 black fox, and 500,000 grey squirrel skins.

In that same year a very important concession was made by Boris Godunoff (then Minister, but afterwards Czar) to British merchants, who were permitted to carry on in Russia a wholesale barter trade in goods of British manufacture, free of duty. In the reign of Boris Godunoff Siberia was finally subjugated, and the Tara, the Tobol, the Irtisch, and the Ob were Russian rivers, peopled by an extensive emigration from all parts of Russia.

In 1639, in the reign of Michael Fedorovitch, the first of the Romanoffs, a Cossack, of the name of Poyarkoff, reached Kamschatka, discovered the Amúr, and attempted to bring it under Russian dominion; in this reign also the Buriats were driven from Lake Baikal, and the fair of Irbit was established; an unsuccessful attempt was likewise made by the Commander of the Forces at Tobolsk, to send a mission to China; some knowledge of which had been obtained from a Mongol Chief, Altyn Khan, who had taken the oath of allegiance to the Czar; and commercial dealings had already been carried on between the Siberians and Chinese traders through Mongolia.

In 1649, Chabaroff, another daring countryman of Yermak's, not only explored the Amúr to the Ussuri, but, after several severe contests with the Chinese, founded the settlement of Kamenske-Ostrog on the left bank of the Amúr, near the mouth of the Chumar.

The incessant disputes which followed this occupation put an end to the incipient trade which had sprung up between Russia and China; but in 1689 those differences were settled by the Treaty of Nertschinsk, and free trade was established between the two countries. Several caravans were in consequence despatched from Russia to Pekin, but the Chinese Government being in reality very much averse to free trade, which deprived them of the revenue they used to raise on caravans, threw every kind of obstacle in the way of the Russian traders, and in 1718 not only prohibited the sale of Russian goods at Pekin, but turned back the caravans which had arrived from Russia.

In order to put an end to the claims for compensation that ensued, and to the complaints of the Chinese against Russian merchants, it was settled by a Convention signed at Kiachta in 1728, that Russian traders should not enter China; freedom of barter was established at two points on the frontier, viz., at Kiachta and Tsouroukaitou, and the

Russian Government retained the right of sending a caravan to Pekin every three years.

From 1728 to 1755 only six such caravans were dispatched, and they conveyed little else than furs belonging to the Crown, the produce of the tribute paid to the Czar by the nomadic tribes of Siberia; these were exchanged for various articles of Chinese produce, of which rhubarb was the most important, and the sale of which was a Russian State monopoly. This barter trade, however, proved to be of little advantage to the Russian merchants engaged in it; partly in consequence of the vexatious proceedings of the local Chinese authorities, who fixed the price of Russian merchandize in a perfectly arbitrary manner, and partly the result of the competition between the Siberian merchants and those trading on behalf of the Crown.

Independently of these difficulties, the commercial relations between Russia and China were interrupted ten times in the space of forty years, between 1744 and 1792, by quarrels and acts of brigandage between the frontier populations.

The longest period of cessation of trade between the two countries occurred, however, in 1756, in consequence of the emigration from China into Russia of the tribe of the Torgoit, numbering 10,000 tents. The return of this tribe to China, in 1771, removed the chief cause of disagreement between the two empires, and in 1792 a Convention was concluded between the Governor-General of Irkutsk and the Chief Commissioner of the Western Frontier Provinces of China, settling the conditions on which the trade was to be carried on in future, and charging the local authorities with the duty of keeping order amongst their respective subjects. From this time trade between the two countries was established on a more regular footing, and, the Emperor Peter III having abolished the monopoly of rhubarb, the entire commerce with China passed into private hands. Trade with such a distant country required, however, a community of action on the part of those engaged in it; and already in the reigns of Peter the Great and the Empress Anne the Russian Government had found it necessary to establish companies on the principle of the East India Company.

In 1767 a corporation of merchants interested in the

Kiachta trade formed several companies or guilds, each having a speciality for certain goods, and bearing the name of the city which produced the principal article in which they traded. Six of these companies were in existence at the end of the last century—viz., those of Moscow, Toula, Archangel, Vologda, Tobolsk and Irkutsk. They were represented at Kiachta by delegates whose duty it was, in accordance with Chinese usages, to watch over the barter trade, and to take care that none of the merchants sold goods below the rate of exchanges fixed in common for all. This was absolutely necessary in order to counteract the combined action of a corporation of Chinese merchants of the Province of Schan-Se, who established a monopoly of the trade with Russia; the nature of which is evident from the spirit of the regulations which formed the basis of their transactions with Russia when the trade was re-opened in 1792. These instructions were to the following effect: 1st, to act in common, with the view of raising to the utmost the price of Chinese merchandize, and of beating down that of Russian goods; 2ndly, to engage the Russian merchants by various subterfuges to bring to the frontier a large supply of merchandize, and at the same time to restrict the supply of Chinese goods; 3rdly, to conceal as much as possible the want of articles of Russian produce in China; 4thly, not to allow any merchant arriving at Maimatchin (the Chinese frontier town) to trade on his own account until he had resided there for a period of one year. The Tzargoutchai (chief of the local authorities at Maimatchin) was charged with the duty of enforcing these regulations. The Chinese traders entered into the spirit of them at once; and as soon as one of them succeeded in obtaining from a Russian subject any article approaching the Tariff fixed for the Chinese traders in common, this served as a rule for not giving more. If, for instance, a Russian trader was compelled by circumstances to sell his goods at a low price, all the other Russian merchants were compelled either to sell at a loss or to keep their goods till next year, for, although the Russian traders were bound to sell at a rate common to all, they did not always scrupulously follow the rule fixed by their corporation, and often sold their goods below the price fixed in common.

The frequent complaints arising from these transactions induced the Russian Government to establish in 1800 a

committee formed by one member out of each company, whose duty it was to fix the barter price of each article before opening the market at Kiachta, and, if it were found impossible to trade at that price, to proceed to a fresh valuation.

In the meantime some of the Kiachta merchants belonging to the six companies began to appropriate to themselves certain articles which, by common agreement, were the mercantile property of others, and thus brought about the ruin of the Companies of Archangel, Vologda, and Toula.

The export trade of Russia to China was originally almost entirely confined to furs. The large quantity of Siberian furs paid to the Crown in the form of tribute and other supplies of the same article found an easy sale, not only in the interior, but in the markets of Central Europe, as well as in Persia and Turkey. But when the national costume was changed in Russia, and was replaced by that worn in the West of Europe, the supply became too large for the markets of Persia and Turkey, and the Government being an interested party in the trade, looked out for another market for its furs, which it found in the Northern Provinces of Mongolia and China. All that was necessary was to discover some articles of importation from the Chinese Empire by which the trade might be sustained. These consisted at first of gold and silver ingots and bars, rhubarb, and articles of luxury—such as silks, porcelain, and precious stones. Later, when the population of Eastern Siberia became more numerous, a demand arose for the coarse kinds of Chinese cotton stuffs known in Siberia by the names of "Kitaika" and "Daba;" both being calico of a strong description, and generally dyed blue, red, or some bright colour. Women of the better classes also used two kinds of Chinese silken stuffs called "Kanfa" and "Tansa," the former being a broad Nanking satin, and the latter a closely-woven Hang-chow silk. But these goods proved insufficient to support the growing trade. Tea was the article destined to play this important part, and it turned the balance of trade in favour of China, which before had been largely in favour of Russia. The use of tea, indeed, soon made such rapid progress that Russia was obliged, on her side, to seek fresh articles to barter in exchange for it. The demand for grey squirrel—

a favourite fur with the Chinese, and which held the chief place in the barter trade—had considerably fallen off. At the end of the last century 7,000,000 of these skins were exported, and this exportation rose in 1800 to 10,000,000 skins; but from that period it gradually declined, till between 1849–52 the average annual exportation fell to 1,460,000, and the valuable furs—such as sable, of which about 1,600 were annually exported—had no longer any place in the trade.

Beaver skins, of which from 30,000 to 40,000 were annually bought by the Chinese, fell to 12,000 and 14,000, and other furs disappeared altogether from the market of Kiachta, where the chief demand was now for fox skins from the Ukraine and from Siberia. The want of proper articles of exchange was, however, supplied temporarily by the transit trade, in which England, Prussia, and the Kingdom of Poland took part by sending their woollen and cotton stuffs to China. But this state of things was of short duration. The restrictions laid on the transit trade, and a prohibitory Tariff, gave an impulse to Russian manufactures of cotton and woollen goods which soon took the place of foreign manufactures in the barter trade with China, and, with the addition of dressed leathers, formed three-quarters of the exportation to China, 18 per cent. of it only falling to furs.

On the other hand, the silks, cotton fabrics, and other articles which formerly constituted the principal Chinese medium of exchange for Russian furs, gradually disappeared from the market and were replaced by tea, which now constituted $\frac{19}{20}$ths of the whole importation.

Although completely changed in character, the trade of Kiachta progressed, and the exchange between the two countries was effected with ease. Furs having diminished in quantity were all the more sought for, and the severity of the climate in Northern Mongolia also created a demand for heavy descriptions of woollen and cotton goods.

The proportion, per cent., of this change in the exportation is shown in the following Table :—

	1830–34.	1849–53.
	Per cent.	Per cent.
Furs	44·7	18
Woollen stuffs	26	42·3
Dressed leather	11·9	9·8
Cotton stuffs	8·4	22·8
Linen stuffs	3·1	1·7
All other goods	5·9	5·4

From this, it appears that woollen goods which, in the period of five years, from 1830 to 1834, represented little more than a quarter, formed, in 1853, two-fifths of the amount of exportation. Cotton stuffs rose from $\frac{1}{12}$th to nearly $\frac{1}{4}$th of the whole value of exportation, while furs which in the first period stood for $\frac{9}{10}$ths of the whole trade, figured in the later period for less than $\frac{1}{5}$th.

The great change which had taken place in the articles of barter brought to Kiachta, and the preponderating supply of manufactured articles by which fresh interests were represented, rendered the strict application of the regulation of 1800 very difficult, especially with regard to the preliminary valuation of the goods brought for barter and which had to be renewed every year by common consent. Those whose interests suffered the most had recourse to clandestine operations, and carried on their business in contravention of the regulations in force. The restrictions to trade became so intolerable that the idea of introducing free trade in the commerce of Kiachta was welcomed even by the merchants and manufacturers of Moscow.

It was found that the high price fixed on Russian goods by preliminary valuation, and which was binding on the whole community, delayed and often paralyzed all commercial transactions and finally drove the Chinese from the market; the consequence of which was that they brought less tea the following year, so that this arbitrary system of raising the prices of Russian goods not only caused a loss to the industry of the country by diminishing the sale of Russian manufactures, but, at the same time, increased the price of tea.

The commercial crises brought about by the artificial and arbitrary increase in the price of Russian goods offered for barter, produced a considerable diminution in the receipts of the Kiachta Custom-house. The amount of the duties on tea and other goods imported from China

having been, in the period from 1845-48, from 5,000,000 to 5,500,000 roubles, while in the following years they produced only 3,500,000, and in 1853 fell to 1,650,000. In 1854, however, the receipts rose again to 2,860,000 roubles, and gradually increased till 1860 when the duties received on tea alone at the Kiachta Custom-house reached the sum of 5,931,395 roubles, the largest amount ever realized by duties raised on the importation of Caravan tea.

This was brought about by several measures introduced by the Russian Government, and by which greater freedom was given to the trade, but especially by the introduction of a new feature into it, viz., the exportation of the precious metals, the use of which had always been strictly prohibited in this trade in order to compel the Chinese to take Russian merchandize in exchange for their tea.

For a long time the Chinese, being in want of furs and Russian manufactures, had no motive for preferring gold and silver. It was only after the war with England in 1842 that the demand for the precious metals arose, which the Chinese merchants found, in consequence of the disturbed state of the country, more convenient and easier to protect from pillage than caravans of merchandize.

From this demand for the precious metals arose a contraband trade in gold and silver. It was found that the Russian merchants were in the habit of settling their accounts illegally with the Chinese, either in gold or silver specie or by bills of exchange and promissory notes. It was calculated at that time that bills for the amount of 40,000 to 50,000 roubles were in circulation at Maimatchin. Various measures were adopted to stop this contraband trade, but their only result was to create an excessive rise in the exchange of gold and silver in the frontier Provinces of China. Half imperials, the real value of which is 5 roubles 15 copecks, were taken by the Chinese in exchange for 8, 9, and 10 roubles in exchange for their goods, and the silver coins or roubles of 100 copecks passed current for 180 copecks. The result of this demand was that those merchants who paid illegally in gold and silver for their purchases bought tea at a much cheaper rate than those who adhered to the legal barter trade.

The amount of gold that was thus exported in con-

traband is calculated to have been at the rate of more than 500,000 roubles a year. On the other hand, as the prohibition extended only to gold and silver in specie or ingots, the Russian merchants had recourse in their transactions with the Chinese traders to an exportation of the precious metals made up into dishes, plates, bowls, spoons, and other articles used by the Chinese. This new element, which first made its appearance in the Kiachta market in 1854, brought about a reaction in the trade, which had fallen into a state of complete stagnation.

Having become aware of this expedient, and being desirous of limiting the exportation of the precious metals, the Imperial Government decreed that the exportation of articles in gold and silver should only be permitted concurrently with merchandize in the proportion of one-third with manufactured articles and one-half with furs.

That is to say, a chest of tea worth 90 roubles might be paid for with six silver-spoons, worth 20 roubles, a piece of calico worth 30 roubles, and a piece of cloth worth 40 roubles; or it could be bought with a silver bowl, worth 45 roubles, and 45 roubles' worth of catskins.

With the assistance of this subsidiary element, the barter trade, which for some time had been at a low ebb, began to revive, and increased in 1854 to 5,810,000 roubles, of which 1,100,000 roubles was in gold or gold ware, and 4,800,000 roubles in merchandize of other descriptions. But experience soon showed that this addition of articles in gold and silver, although it facilitated trade, was in reality disadvantageous to the Russian merchants; for the Chinese traders, in exchanging tea for these articles, took them merely at their intrinsic value, and would allow nothing for the workmanship, which showed that it would be more reasonable and profitable to permit the exportation of the precious metals in bars and ingots; consequently, from this time articles in gold and silver were represented at Kiachta by the precious metals run into moulds of the rudest forms, representing bowls, dishes, &c.

Those in favour of the prohibition of the exportation of the precious metals asserted that, if permitted, the Chinese merchants would no longer buy Russian manufactures, but would purchase with the gold and silver thus obtained manufactured goods of a similar description at the ports open to Europeans; that consequently there would be a great drain of the precious metals to China,

and that the manufacturers who worked for the Chinese trade would be ruined. Some persons, indeed, carried these apprehensions so far as to advocate the prohibition of the exportation of the precious metals along the whole Asiatic frontier, with a view to putting a stop to the contraband trade in gold and silver.

These apprehensions, however, would not bear examination. In the first place, it was by no means proved that the Chinese would on all occasions prefer gold and silver to other articles. They merely looked upon the precious metals as a species of merchandize, the varying exchange of which made it very difficult to calculate beforehand the profits of a commercial operation in which those metals were the chief agents of barter.

The demand for gold and silver in the Kiachta trade was merely the result of circumstances affecting commercial exchange, and was of itself of a restricted nature, as for instance in 1854, when, notwithstanding that the exportation of the precious metals was legalized, they only figured for 17 per cent. in the total value of the exchanges. It was evident also that the several hundred thousand inhabitants of the cold regions of Northern Mongolia could not do without Russian furs and woollen goods, and that it could be of no advantage for Chinese traders to purchase those articles at the southern ports of the Empire for the purpose of conveying them to the north of Mongolia. The European merchants who supplied the Chinese at those ports with cotton and woollen goods of a light description, totally unlike the goods exported by Russia, naturally took in return Chinese produce; it was evident, therefore, that the Chinese did not require Russian gold and silver for purchasing European merchandize.

But the restriction on the exportation of gold was not only futile, it occasionally inflicted serious injury, for whenever gold and silver were scarce at Kiachta trade languished or came to a standstill; as in 1853, when the supplies of precious metals having been exhausted, the legal trade in tea was reduced to 10,000 chests; while at the same time the contraband trade in gold and silver was carried on outside Kiachta; in exchange for which, not less than 25,000 chests of brick tea, and 5,000 chests of flower tea, were smuggled across the frontier.

The prohibition against the exportation of precious metals by Kiachta did not compel the Chinese, nor any

other Asiatic population, to purchase more manufactured goods than they actually required, and the prohibition, if extended along the Asiatic frontier, would have had the effect of destroying trade in that direction, and of depriving Russian industry of raw produce, such as cotton, raw silk, dye stuffs, &c., required by Russian manufactures; or the contraband trade, which it is impossible to prevent on such an enormous frontier, would have replaced the legal exportation of gold and silver. These considerations, as well as the diminution in the receipts of the Kiachta Custom-house, militated in favour of the free exportation of the precious metals, as a means of improving the trade with China; and the exportation of gold and silver ingots was legalized in the same proportion with other merchandize as had been permitted with respect to gold and silver ware. On the $\frac{1}{13}$th August, 1855, a fresh regulation was promulgated abolishing the restrictions of 1800, and introducing an extension of the freedom of trade, which proved to be of considerable benefit, and in 1861 the use of gold and silver specie was permitted, though it was not thought advisable at first to allow the unlimited exportation of the precious metals. But notwithstanding these improvements, notwithstanding that the importation of tea, by sea and by the European frontier, was strictly prohibited, and that the Kiachta merchants enjoyed a complete monopoly of the trade with China (with the exception of a single grant to the Russian American Company who had the privilege of importing one cargo of tea every year by sea), the Kiachta trade languished, and bitter complaints were heard on all sides from those interested in it of the insufficient protection afforded them against the foreign and fraudulent competition that had sprung up. It had long been suspected, and it was now evident that an immense contraband trade in tea had been carried on for years, for cheap tea was found not only in the frontier provinces, but even in the interior, many millions of pounds of which were annually consumed without benefiting the Treasury to the value of a copeck.

With the view of putting a stop to this illicit trade, and in spite of the opposition of the Kiachta merchants, the Imperial Government decided to try the experiment of permitting the importation of sea-borne or Canton tea at a moderate rate of duty.

This important decision was carried into effect on the

1st of April, 1862, the trade at Kiachta having been thrown open from the 1st of October, 1861 ; the duty on ordinary teas imported through Maimatchin being reduced from 40 copecks to 15 copecks per lb., and on the superior qualities from 70 copecks to 40 copecks per lb., while on black tea it was reduced from 10 copecks to 2 copecks per lb.

Since these alterations the trade has experienced a considerable development, although the increase has fallen far short of what was expected in 1862. It was naturally supposed that with so great a diminution in price as that which followed the opening of the trade, amounting on most of the common kinds of tea to 100 per cent., the consumption of tea would have extended to all classes, and that this would have shown itself by a vast increasing annual importation. The sequel, however, has shown that such is not the case ; the import of 1862 proved to be in excess of the demand for consumption, and the returns for 1863 and 1864 show a considerable falling off in the quantities imported from Europe, the figures being as follows :—

	lbs.
From Europe in 1863	11,327,000
„ 1864	9,571,000

While the importation by Kiachta, which was in 1861 19,797,000 lbs., fell in 1862 to 18,231,000 lbs., and in 1863 to 16,523,000 lbs. ; the legal importation, however, having increased by 8,500,000 lbs. on the European frontier.

I shall endeavour, in another part of this paper, to point out what appears to me to be the cause of this result, so different from that which the Imperial Government had a right to expect from the abolition of the Kiachta monopoly.

In explanation of the foregoing observations, I subjoin the following Tables, exemplifying the nature and progress of the Kiachta trade, the amount and value of Russian goods and manufactures exported to China, and of the importation of tea, for 27 years, from 1837 to 1863 inclusive ; together with other Tables showing the increase in the price of Russian goods on their transit into the interior of China, and the different charges weighing on the tea on its transport from the tea-growing districts of China to Moscow.

Exports to China.

Peltry.—The demand on the part of the Chinese for furs from the Russian territories is limited in a great measure to those of inferior description; but this circumstance contributes greatly to the convenience of the Russian traders, as they thus obtain at Kiachta a good market for the less valuable skins, which would not pay the cost of carriage from Siberia to European Russia.

Squirrel, fox, cat skins, and the short curly lamb skins (called "Astracan" in European markets) were the furs most in demand, but of these the first has ceased to be exported from Russia, and the sale of furs of all kinds has diminished, as will be seen in the following Table:—

(Table 1.)—Exportation of Peltry.

Years.	RUSSIAN.										FOREIGN.			
	Beaver.	Squirrel.	Otter.	Sea-bear or Ursine Seal.	Steppe Fox and Fox.	Catskins.	Fox paws or pads.	Ukraine lambskin.	Trans-Baikal lambskin	White Fox.	Otter.	Steppe Fox and Fox.	Trans-Caikal lambskin	Lynx.
1837 ..	10,119	2,931,345	21,959	12,117	134,671	399,207	529,575	909,752	216,167	56,373	1,695	126,598	97,505	..
1838 ..	10,472	3,084,296	19,479	7,259	59,101	201,446	460,175	934,925	202,133	26,082	2,052	118,195	24,710	..
1839 ..	13,761	3,717,781	14,969	8,000	55,381	308,347	266,308	965,986	303,115	80,975	3,859	72,963	67,395	..
1840 ..	13,509	4,344,140	19,651	9,959	86,864	373,724	435,477	1,094,129	246,549	35,544	4,258	147,062	70,705	..
1841 ..	10,738	3,124,544	13,361	10,000	52,707	317,867	325,365	1,115,178	256,202	57,124	5,072	42.249	58,678	..
1842 ..	9,405	1,783,569	17,075	10,000	29,259	165,877	222,863	442,689	194,961	39,757	5,841	59,047	37,441	..
1843 ..	10,723	672,682	8,323	8,352	30,306	276,342	391,469	218,516	224,066	67,063	4,175	19,673	47,596	..
1844 ..	9,926	2,298,347	13,256	8,179	42,342	147,577	359,153	524,094	230,190	48,561	3,520	63,024	51,039	..
1845 ..	7,423	3,038,887	16,895	8,202	59,388	271,265	555,090	642,219	247,592	81,349	6.663	130,212	50,639	..
1846 ..	7,066	1,361,908	14,773	9,900	34,697	239,364	584,327	413,112	208,400	71,469	8,394	67,414	54,659	..
1847 ..	9,613	2,759,920	11,727	12,101	24,389	403,138	529,607	659,267	324,931	79,039	2,035	63,780	77,095	..
1848 ..	6,245	1,877,651	8,024	1,697	29,403	293,089	519,916	365,079	214,881	74,395	3,243	80,072	51,848	..
1849 ..	8,370	1,109,954	9,087	7,800	19,218	157,227	454,857	181,507	236,165	48,244	2,325	51,402	16,307	..
1850 ..	6,110	2,556,111	15,161	4,425	36,848	350,459	539,050	594,156	270,063	51,268	4.325	14,718	48,070	15,868
1851 ..	14,662	1,339,122	12,699	3,450	12,256	179,800	359,653	320,456	276,203	54,812	6,741	18,843	23.802	13,749
1852 ..	14,828	1,941,839	15,992	6,727	26,861	333,912	651,875	387,394	206,754	26,976	7,316	54,394	38,955	19,243
1853 ..	578	344,537	1,026	1,553	12,448	158,385	165,551	57,890	37,247	16,019	952	37,314	11,235	1,732
1854 ..	28	58,012	588	51	389,000	35,294	43,773	741	37,202	3,980	468	2,796	1,347	1,501
1855 ..	1,658	291,465	4,690	..	2,869	16,151	76,930	36,359	41,228	40,434	2,890	9,901	10,185	981
1856 ..	11,206	687,875	7,153	2,500	18,617	245,256	97,281	104,118	129,585	54,685	2,455	17,383	23,472	1,033
1857 ..	4,269	221,010	6,913	5,239	3,585	80,573	538,900	191,365	65,346	33,354	1,683	11,370	28,888	5,362
1858 ..	6,172	1,091,871	5,848	7,222	8,306	50,545	804,718	65,260	79,247	17,994	2,308	..	50,274	498
1859 ..	2,898	214,826	5,258	5,000	2,594	17,868	564,893	..	105,891	34,254	2,841	..	5,694	6,251
1860 ..	3,878	6,554	5,305	8,093	3,181	69,995	437,320	100	64,181	15,132	4,129	7,224	9,143	7,481
1861 ..	129	1,719	2,164	350	20	73,910	326,313	56,384	25,027	25,880	1,275	..	..	6,954
1862 ..	4,881	..	387	3,758	8	9,867	161,984	67,308	40,792	24,646	7,537	..	..	4,722
1863 ..	2,693	..	1,326	6,175	28	8,155	262,906	47,980	23,765	15,025	3,027	..	..	1,940

From the foregoing Table it will be seen that the barter trade in peltry of every description has declined in the following proportions:—

(*a.*) *Beaver Skins.*—The average annual exportation of this article was for the period—

	Skins.
1837–52	10,167
1853–62	4,198

In the years 1853, 1854, and 1861, the trade in beaver skins almost ceased, the exportation being—

	Skins.
For 1853	548
1854	28
1861	129

(*b.*) *Squirrel.*—The average annual exportation for the period from—

	Skins.
1837–52	2,371,381
1853–59	415,655

From 1837 to 1852 the exportation of squirrel skins varied from 4,344,140 in 1840 to 672,682 in 1843; the exportation in the latter year was, however, exceptionally small, for in the following year it rose to 2,298,347. A considerable decline again took place in 1853, when the exportation fell to 344,537. Again, in 1858, it rose to 1,091,871; in 1860 it fell to 6,554; in the following year to 1,719, and then ceased altogether.

(*c.*) *Otter.*—Average annual exportation for the period from—

	Skins.
1837–52	14,526
1855–60	5,861
1861–63	1,292

Varying in the first period from 21,959 skins in 1837 to 8,024 in 1848; from 15,992 in 1852 it fell in the following year to 1,026, and in 1854 to 588.

In the second period the exportation again improved, the greatest export being 7,153 in 1856, and the least 4,690 in 1855; while in the third period the highest exportation was 2,164 in 1861, and the lowest 387 in 1862.

(*d.*) *Sea-bear* (*Ursine Seal*).—Average annual exportation for the period from—

	Skins.
1837–52	8,010
1856–63	4,792

Varying in the first period from 12,117 in 1837, to 1,697 in 1848; from 6,727 skins in 1852, the exportation fell at once to 1,553 in 1853, while in the following year only 51 skins were disposed of by barter, and in 1855 the exportation ceased altogether.

In the second period, however, the exportation improved, varying between 2,500 in 1856, and 8,093 in 1860.

(*e.*) *Steppe Fox and Common Fox.*—The average annual exportation of these skins was for the period from—

	Skins.
1837–46	58,472
1847–53	23,060
1855–60	6,525

Varying in the first period from 134,671 in 1837, to 30,036 in 1843; in the second period, from 29,403 in 1848, to 12,256 in 1851; and in the third period, from 18,617 in 1856, to 2,594 in 1859.

In 1854 only 389 skins were exchanged, while from 1861 the exportation nearly ceased, there being in that year a demand for 20, and in 1862 for only 8 skins, while in 1863 it did not rise to more than 28.

(*f.*) *Cat-skins.*—Average annual exportation for the period from—

	Skins.
1837–53	269,237
1854–61	73,699

Varying in the first period from 399,207 in 1837, to 158,385 in 1853; and in the second period, from 245,256 in 1856, to 8,115 in 1863.

(*g.*) *Fox-paws.*—Average annual exportation for the period from—

	Skins.
1837–52	436,548
1853–63	316,415

In the first period the exportation of this article increased from 222,863 in 1842, to 651,875 in 1852; in the second period, from 43,773 in 1854, to 804,718 in 1858.

(*h.*) *Ukraine Lamb-skins.*—Average annual exportation for the period from—

	Skins.
1837–41	1,005,995
1842–52	431,681
1853–63	78,333

In the first period this branch of exportation varied from 909,752 in 1837, to 1,115,178 in 1841; in the second period, from 659,267 in 1847, to 181,507 in 1849.

In 1854 only 141 skins were bartered; in 1859 not a single skin was disposed of; and in 1860 only 100 skins were exchanged.

With the exception of these three years, the exportation in the third period varied from 36,359 in 1855, to 191,365 in 1857.

(*i.*) *Transbaikal Lamb-skins.*—Average annual exportation for the period from—

	Skins.
1837–52	241,104
1853–63	59,046

During the first period this exportation varied from 194,961 skins in 1842, to 324,931 in 1847. In the following period it fell from 129,585 in 1856, to 23,765 in 1863.

(*j.*) *White Fox.*— Average annual exportation from the period from—

	Skins.
1837–51	58,137
1852–63	25,365

Varying in the first period from 26,082 in 1838, to 81,349 in 1845; and in the second period, from 3,980 in 1854, to 54,685 in 1856.

The exportation of foreign peltry diminished in a still greater proportion the demand for the skins of the steppe fox, common fox, peltry from Bokhara, and foreign lynx, having during the period of twenty-seven years dwindled down to an insignificant amount, or ceased altogether.

(Table 2.)—AMOUNT of the Principal Manufactures exported from Russia to China from 1837–63.

Years.	Woollen Goods.				Cotton Goods.			Linen and Hempen.	Leather.	
	Russian.			Foreign.	Russian.		Foreign.	Russian.	Russian.	
	Cloth.	Ladies' Cloth.	Camlet.	Camlet.	Plush and Velveteens.	Nankeen.	Plush and Velveteen.	Drills, Persian watered.	Kid and Morocco.	Dressed hides, Youfts.
	Arshines.	Arshines.	Arshines.	Arshines.	Arshines.	Arshines.	Arshines.	Konovat.	Pieces.	Pieces.
1837	784,635	3,442	..	77,863	880,396	..	306,435	529,865	182,933	61,903
1838	961,830	10,834	..	40,878	451,205	..	189,726	430,005	166,115	65,369
1839	1,203,853	8,501	..	101,234	1,093,382	..	205,806	473,711	225,360	70,146
1840	1,228,044	13,189	..	106,299	1,299,104	219,295	83,251	575,532	222,225	70,693
1841	1,550,477	27,496	..	113,063	1,638,293	426,492	8,649	545,603	155,147	69,378
1842	1,533,103	94,188	..	47,558	1,828,721	336,717	7,547	445,268	214,483	47,212
1843	928,321	120,835	..	34,024	1,631,497	304,652	5,017	468,914	96,950	46,407
1844	1,220,316	103,860	..	23,001	2,018,629	391,871	20	413,272	127,374	34,581
1845	1,415,622	87,817	..	49,628	2,106,589	240,353	30	587,249	192,633	45,470
1846	1,338,483	142,536	..	22,446	2,656,921	495,165	..	720,676	220,638	51,710
1847	1,332,691	123,639	..	37,568	2,290,414	289,328	..	349,874	179,993	40,084
1848	993,600	149,500	..	24,521	1,877,965	264,060	..	230,542	94,444	45,887
1849	1,067,423	88,182	..	17,057	2,206,148	196,509	..	240,739	114,381	49,935
1850	1,211,573	85,362	319	15,372	3,008,040	351,039	..	266,551	194,056	91,163
1851	1,454,775	129,388	881	9,132	2,559,342	374,129	..	425,861	181,318	101,153
1852	1,474,238	120,202	45	3,410	3,319,580	632,978	..	273,275	229,970	113,126
1853	437,207	52,189	..	1,098	1,587,331	762,063	..	227,474	80,136	68,735
1854	1,012,708	137,058	..	2,672	3,061,887	190,162	..	416,630	40,102	10,840
1855	661,961	127,670	..	5,120	2,688,864	195,266	..	230,546	103,298	14,387
1856	648,582	97,782	45	..	1,663,810	335,288	..	300,642	109,936	21,426
1857	536,439	115,007	5,288	315	2,691,046	404,963	..	465,616	43,581	35,733
1858	603,820	81,888	48,794	4,476	2,031,507	165,038	..	235,969	120,035	18,772
1859	778,345	244,059	110,271	20,910	2,019,646	187,558	..	120,361	84,300	30,526
1860	812,316	187,728	102,240	4,241	2,257,378	177,928	..	367,911	69,711	35,720
1861	576,401	112,887	50,618	10,602	2,728,313	153,809	..	71,365	60,795	33,960
1862	600,313	160,078	38,977	5,500	2,815,296	156,326	..	70,719	87,818	26,465
1863	601,829	56,642	30,615	..	1,640,670	137,109	..	147,909	55,889	34,704

(*a.*) *Average Annual Exportation of Cloth from Russia to China.*

	Arschines.
1837–38	873,232
1839–52	1,282,323
1855–63	646,667

The exportation of cloth in 1854 was exceptional, the amount being 1,012,708 arschines, after which it declined rapidly, the average quantity for the nine years following, being only 646,667 arschines; the largest quantity bartered at Kiachta during a period of twenty-seven years was in 1841, when 1,550,501, and in 1842, when 1,526,135 arschines were exchanged; the smallest being in 1853, of only 437,171 arschines.

These cloths, which are of a thick and heavy description, are in great demand in the north and centre of China; they are known by the names Mezeritz and Kornovy; the first containing 25 and the second 22 arschines to the half piece.

(*b.*) *Average Annual Exportation of Light or Ladies' Cloth.*

	Arschines.
1837–41	12,692
1842–52	113,228
1854–62	140,462

The exportation of this article varied still more than that of cloth, for although the average exportation from 1842–52 amounted to 113,228, the figures varied from 142,536 in 1846, to 85,362 in 1850; in the preceding period the variations were from 3,442 arschines in 1837 to 27,496 in 1841, while in 1842 the exportation rose at once to 94,188 arschines.

In the last period, 1854 to 1862, the variation was still greater, viz., from 81,888 in 1858, to 244,059 in 1859, while in 1853 only 52,189, and in 1863 only 56,642 arschines of ladies' cloth were exported.

(*c.*) Up to the year 1858 the exportation of Russian camlet to China was but trifling, the article employed in the barter trade up to that period being chiefly of foreign manufacture.

The average annual exportation of foreign camlets from 1839 to 1841 being 107,198 arschines. Owing to

the alterations in the Tariff of 1841,* the exportations of foreign camlets fell to 49,628 arschines in 1845, and to 315 arschines in 1857; while, on the other hand, that of Russian camlet rose to 48,794 arschines in 1858; the average exportations for 1859 and 1860, being 106,255 arschines; from this period, however, the exportations of Russian camlet to China declined, the average annual exportation for 1861–63 being 40,070 arschines, that for 1863 being only 30,615 arschines.

(*d.*) *Plush and Velveteen.*—The exportation of foreign plush and velveteen which in 1837 amounted to 306,435 arschines, gradually declined till in 1844 it was reduced to 20 arschines and then ceased altogether.

On the other hand, the exportation of Russian plush and velveteen which in 1837 amounted to 880,396 arschines, gradually increased till in 1852 it had reached 3,319,580 arschines, an increase which is accounted for partly by the alterations in the duties on foreign plush, and partly owing to the development and improvement of the manufacture of that article at Moscow.

The average annual exportation of Russian plush and velveteen from 1844 to 1863, inclusive of the latter year, was 2,361,468 arschines.

(*e.*) The exportation of nankeen shows a serious decline, the annual average exportation being :—

	Arschines.
1840–57	356,126
1858–62	162,961

The amount of nankeen exported in 1863 being only 137,109 arschines.

(*f.*) *Of Flax and Hempen Goods.*—The average annual exportation was :—

	Arschines.
1837–46	519,009
1847–63	261,293

Varying in the first period from 413,272 arschines in 1844, to 720,676 arschines in 1846; and in the second period from 465,616 arschines in 1857, to 70,719 arschines in 1862.

(*g.*) *Kid and Morocco Leather.*—The exportation of kid and morocco leather, after considerable variations, began

* Under the Tariff of 1822 the duty on camlets of every description was 1 rouble 35 copecks; by the Tariff of 1841 the duty on fine camlet was 1 rouble 80 copecks and on stout ditto 1 rouble 25 copecks.

to decline seriously in 1853, the average annual exportation being for the period from :—

	Skins.
1837–52	174,876
1853–58	82,845
1859–63	71,287

Varying in the first period from 94,444 pieces in 1848 to 229,970 in 1852.

In the second period, from 40,102 in 1854 to 120,035 in 1858; and in the third period from 87,818 in 1862 to 55,889 in 1863.

(*h.*) *Russia Leather* (*yufts*).—The annual average exportation of this article was during the period—

	Hides.
1837–53	63,115
1854–63	26,253

Rising from 60,903 hides in 1837 to 70,693 in 1840, and then falling off to 34,581 in 1844.

In 1852 the exportation of this article rose to 113,126, but from 1853 the trade declined to 68,735 hides, and in 1854 to 10,840, when the minimum of exportation was reached.

I have mentioned incidentally in the early part of this paper an article of trade peculiar to Siberia, the ivory of Mammoth tusks. Although forming too slight an item to be taken into consideration in the statistical returns of the trade of Russia, still as this ivory formed one of the earliest articles of export from Siberia to China, the few statistics I have been able to collect with reference to this curiosity of commerce may not be without interest.

About 40,000 lbs. of fossil ivory, that is to say the tusks of at least 100 mammoths, are bartered for every year in New Siberia, so that in a period of 200 years of trade with that country, the tusks of 20,000 mammoths must have been disposed of, perhaps even twice that number, since only 200 lbs. of ivory is calculated as the average weight produced by a pair of tusks.

As many as ten of these tusks have been found lying together in the "Tundra," weighing from 150 to 300 lbs. each; the largest are rarely seen out of the country, many of them being too rotten to be made use of, while others are so large that they cannot be carried away, and are sawn up in blocks or slabs on the spot where they are found, with very considerable waste, so that the loss of

weight in the produce of a tusk before the ivory comes to market is of no trifling amount. A large portion of this ivory is used by the nomad tribes in their sledges, arms, and household implements, and formerly a great quantity used to be exported to China; a trade which can be traced back to a very distant period, for Giovanni de Plano Carpini, a Franciscan Monk, sent by Pope Innocent IV, in 1246, into Tartary, describes a magnificent throne of carved ivory, richly ornamented with gold and precious stones, belonging to the Tartar Khan of the Golden Horde, the work of a Russian jeweller, the slabs of which were so large that they could only have been cut out of large mammoth tusks.

Notwithstanding the enormous amount already carried away, the stores of fossil ivory do not appear to diminish; in many places near the mouths of the great rivers flowing into the Arctic Ocean, the bones and tusks of these antediluvian pachyderms lie scattered about like the relics of a ploughed-up battlefield, while in other parts these creatures of a former world seem to have huddled together in herds for protection against the sudden destruction that befell them, since their remains are found lying together in heaps.

In 1821, a hunter from Yakutsk, on the Lena, found in the New Siberian Islands alone 500 poods (18,000 lbs. English) of mammoth tusks, none of which weighed more than 3 poods; and this, notwithstanding that another hunter on a previous visit in 1809, had brought away with him 250 poods of ivory from the same islands. The inhabitants on the mainland pile up in heaps the tusks which are found scattered about on the "Tundra," and convey them in large boats up the Lena. In the period from 1825 to 1831 at least 1,500 poods reached Yakutsk yearly; the trade in fossil ivory at Turuchansk, on the Jenissei, has for many years past amounted to from 80 to 100 poods annually, and that of Obdorsk, on the river Ob, from 75 to 100 poods.

Entire mammoths have occasionally been discovered, not only with the skin (which was protected with a double covering of hair and wool) entire, but with the fleshy portions of the body in such a state of preservation that they have afforded food to dogs and wild beasts in the neighbourhood of the places where they were found. They appear to have been suddenly enveloped in ice or to have sunk into

mud which was on the point of congealing, and which, before the process of decay could commence, froze around the bodies and has preserved them up to the present time in the condition in which they perished. It is thus they are occasionally found when a landslip occurs in the frozen soil of the Siberian coast, which never thaws even during the greatest heat of the summer, to a depth of more than 2 feet; and in this way, within a period of a century and a half, five or six of these curious corpses have come to light from their icy graves.

A very perfect specimen of the mammoth in this state was discovered in the autumn of 1865, near the mouth of the Jenissei; an expedition was despatched to the spot by the Imperial Academy of Sciences last summer, and, as no time has been lost, the result of that expedition, it is considered, will be the disclosure of some interesting facts in the natural history of a former creation.

(Table 3.)—Value of Russian Manufactures Exported to China.

Value in Silver Roubles.

Years.	Woollen.					Cotton goods.				Flax and Hemp.			Leather prepared.	Total.	Foreign and Russian Manufactures.	Total Value of Russian and foreign goods bartered.
	Cloth.	Ladies' cloth.	Camlet.	Other Merchandize.	Total.	Plush and Velveteen.	Nankeen	Other Goods.	Total.	Ticking and Canvas.	Other Goods.	Total.				
1841 ...	3,282,000	35,322	19,841		3,337,163	901,876	57,136	16,107	975,119	183,711	1,645	185,356	434,579	4,832,217	5,185,467	7,537,596
1842 ...	3,206,277	122,098	5,386		3,333,761	917,636	43,648	16,749	978,033	151,559	985	152,544	460,911	4,925,299	5,055,093	6,708,102
1843 ...	1,830,812	144,240	6,052		1,981,104	835,345	41,854	18,146	895,345	162,704	3,496	166,200	282,608	3,325,257	3,428,644	4,966,843
1844 ...	2,467,861	132,639	5,195		2,605,695	970,689	52,518	9,822	1,033,056	141,802	2,118	143,920	282,351	4,065,022	4,158,086	5,855,035
1845 ...	2,774,609	105,905	7,175		2,880,514	1,017,415	33,160	8,659	1,059,234	220,632	2,704	223,336	414,900	4,577,984	4,714,563	6,811,238
1846 ...	2,736,760	197,466	2,598		2,936,824	1,419,947	63,584	14,660	1,498,191	272,241	988	273,229	498,989	5,207,233	5,295,679	7,013,160
1847 ...	2,739,182	173,539	3,135		2,915,856	1,134,723	36,741	21,753	1,193,217	135,625	362	135,987	407,866	4,652,926	4,776,875	6,800,566
1848 ...	2,150,107	208,334	9,372		2,367,813	883,647	31,653	17,523	932,823	86,984	596	87,580	313,405	3,701,621	3,797,932	5,349,918
1849 ...	2,284,346	122,634	6,131		2,284,346	1,046,378	23,588	6,667	1,076,633	83,522	56	83,578	349,875	3,794,432	3,993,065	5,165,334
1850 ...	2,588,849	122,789	17,666		2,729,304	1,412,280	43,390	7,295	1,462,935	103,549	18	103,567	654,862	4,950,668	5,069,138	6,916,071
1851 ...	3,048,335	195,675	23,043		3,267,053	1,144,156	41,643	8,930	1,194,729	153,795	1,141	154,936	668,169	4,284,887	5,419,458	6,826,955
1852 ...	3,090,419	174,916	31,826		3,297,161	1,599,012	77,556	20,796	1,697,364	102,648	909	103,557	793,688	5,891,770	6,090,801	7,938,812
1853 ...	910,427	75,784	12,405		998,616	696,622	90,014	19,525	806,161	83,875	503	84,378	413,310	2,302,465	2,395,557	2,904,078
1854 ...	2,277,041	214,010	9,448		2,500,499	1,505,314	21,253	926	1,527,493	159,744	244	159,988	97,106	4,285,086	5,339,670	5,840,138
1855 ...	1,452,387	198,241	16,703		1,667,331	1,239,414	23,789	7,003	1,290,236	84,175	112	84,287	199,485	3,241,339	5,370,735	6,665,740
1856 ...	1,422,249	149,853	5,731		1,577,833	760,787	40,094	17,351	818,232	112,976	784	113,760	236,113	2,745,938	5,080,999	6,098,836
1857 ...	1,244,052	172,246	19,848		1,436,146	1,290,939	47,924	12,732	1,351,595	166,321	484	166,805	220,177	2,873,935	4,453,918	6,024,931
1858 ...	1,564,960	160,821	121,984	20,591	1,868,356	1,036,816	20,357	44,816	1,101,989	83,546	6,099	89,645	246,155	3,306,145	3,827,880	5,723,697
1859 ...	2,217,547	480,332	204,327	87,600	2,989,806	919,377	13,522	53,320	986,219	50,833	3,932	54,765	302,163	4,332,953	4,493,221	5,794,682
1860 ...	2,357,548	359,260	183,986	32,869	2,933,663	1,077,427	24,092	18,746	1,120,265	140,082	1,815	141,897	309,841	4,505,666	4,746,031	5,774,837
1861 ..	1,806,280	223,747	51,868	15,440	2,097,335	1,384,153	20,602	43,582	1,448,337	25,577	964	26,541	295,621	3,867,834	3,944,211	4,805,445
1862 ...	1,662,807	283,787	35,122	17,649	1,999,365	1,357,956	22,285	26,715	1,406,925	26,107	567	26,674	290,738	3,723,733	3,828,852	4,392,303
1863 ...	1,642,608	103,833	17,446	371	1,764,258	720,596	20,080	14,431	785,107	50,652		50,652	274,890	2,844,907	3,004,084	3,332,991

(Table 4.)—EXPORTATION of Precious Metals.

Years.	Gold Ware.	Gold, Russian Specie.	Silver Ware.	Silver, Foreign Specie.	Silver, Russian Specie.	Total Precious Metals.	Bills of Exchange.	Value of Precious Metals & Bills of Exchange.
	Roubles.	Roubles.	Roubles.	Roubles.	Roubles.	Roubles.	Roubles.	Roubles.
1854	151,588	—	843,033	—	—	994,621	—	—
1855	187,211	75,823	1,903,425	3,390	—	2,169,849	—	—
1856	39,123	188,639	2,227,091	46,899	—	2,501,752	—	—
1857	22,777	86,396	1,204,209	1,367,217	—	2,680,599	—	—
1858	1,901	120,144	484,879	1,477,496	—	2,084,420	—	—
1859	—	153,058	32,640	1,499,812	—	1,685,510	—	—
1860	—	219,688	2,780	977,358	—	1,199,826	—	—
1861	—	139,374	4,014	2,245,953	288,044	2,677,385	150,270	2,827,655
1862	300	419,156	803	2,257,443	1,824,472	4,502,174	547,850	5,050,024
1863	—	327,979	25	1,854,330	2,021,844	4,204,178	717,608	4,921,786

The improvement which took place in the trade of Kiachta in the year 1854, in consequence of permission being granted to export gold and silver ware from Russia to China, has already been mentioned, and, as I have stated on authority derived from an official source, the amount of gold and gold ware exchanged at Kiachta during that year amounted to 1,010,000 roubles. But from this Table it appears that the total amount of precious metals legally exported from Russia that year after the new regulation came into force was of the value of 994,621, of which only 151,588 was gold ware. The excess of gold (probably specie or ingots) exchanged that year amounted, therefore, to 858,412 roubles, which must have been already in hand at Kiachta, a fact which will serve as an indication of the extent to which the contraband trade in precious metals was being carried on, and the necessity for legalizing their exportation.

It will also be seen from this Table that the exportation of precious metals from Russia to China quadrupled in the period from 1854 to 1862, the figures being as follows:—

	Roubles.
1854	994,621
1862	4,502,174
1863	4,204,178

Besides which bills of exchange were exported, in 1862, to the value of 547,850 roubles; and, in 1863, for 717,608 roubles. The total value of precious metals and bills being, in 1862, 5,050,024 roubles; and, in 1863, 4,921,786 roubles.

The value of Russian merchandize exported was, in 1862, 4,263,505 roubles; in 1863, 3,278,976 roubles. Of foreign merchandize, in 1862, 127,701 roubles; in 1863, 53,990 roubles. Total value of exportation, in 1862, 4,391,206 roubles; in 1863, 3,322,966 roubles.

From the year 1856, up to which time the trade had increased in dimensions it has never before, nor has since attained, the exportation of Russian manufactures to China fell off considerably; that of linen and hempen goods declined from 1847, leather from 1853, cloth from 1855, peltry from the same period, nankeen from 1858, and camlet from 1861. Ladies' cloth and plush being the only articles the exportation of which has been sustained.

The exportation of the precious metals, as shown above, from 1854 to 1862, exceeded the value of the entire

exportation of Russian and foreign manufactures, in 1862, by 110,968 roubles; in 1863, by 871,212 roubles. Of Russian manufacture alone, in 1862, by 238,669 roubles; and, in 1863, by 925,202 roubles. But the exportation of precious metals and bills of exchange together exceeded the value of the exportation of Russian merchandize to China, in 1862, by 786,519 roubles; and, in 1863, by 1,642,810 roubles.

The following Table gives in detail the weight of Chinese goods imported to Russia, and that of the Russian exportation to China, as well as the number of transports engaged in the carrying trade, and the sums expended in the transport of those goods, a correct idea may therefore be formed from it of the importance of the interests engaged in the transport of merchandize between Moscow and Kiachta.

(Table 5.)—Kiachta Trade with regard to Transport.)

Years.	From Kiachta into the interior of Russia.		From Moscow and Nijni Novgorod to Kiachta.		General weight of Russian, foreign, and Chinese goods packed.	Total number of Transports used in conveying Exports and Imports.	Expended in the transport of goods.	
	Weight of Chinese goods packed.	Number of Transports.	Weight of Russian and foreign goods packed.	Number of Transports.			From Kiachta to Tiumen.	From Tiumen to Nijni, Novgorod, and Moscow.
	Poods.		Poods.		Poods.		Roubles, about	Roubles, about
1834..	233,961	11,874	95,396	5,128	329,357	17,002	790,000	330,000
1835..	253,284	12,478	125,758	8,240	439,042	20,718	1,050,000	440,000
1836..	287,317	15,694	158,050	7,467	445,367	23,161	1,070,000	445,000
1837..	241,040	11,638	127,984	6,065	369,024	17,703	885,000	370,000
1838..	251,094	12,500	136,908	6,908	388,002	19,408	930,000	380,000
1839..	270,304	13,545	103,952	5,432	374,256	18,977	890,000	375,000
1840..	283,849	13,757	139,049	6,768	422,898	20,525	915,000	420,000
1841..	310,869	15,245	147,042	7,020	457,911	22,265	1,000,000	450,000
1842..	373,048	18,221	141,389	6,764	514,437	24,985	1,760,000	720,000
1843..	296,415	14,560	127,224	6,250	423,639	20,810	1,400,000	600,000
1844..	349,019	16,923	120,809	5,639	469,828	22,562	1,550,000	650,000
1845..	430,577	21,145	129,589	5,921	560,166	27,066	1,840,000	784,000
1846..	457,752	21,825	128,230	5,725	585,982	27,550	1,930,000	820,000
1847..	489,446	22,867	114,054	5,137	603,520	28,004	2,000,000	840,000
1848..	506,568	25,093	109,835	5,072	616,403	30,165	2,030,000	860,000
1849..	417,974	19,573	108,627	5,023	526,601	24,596	1,740,000	737,000
1850..	423,938	20,422	95,803	4,335	519,741	24,757	1,715,000	727,000
1851..	452,919	22,717	142,444	6,690	595,363	29,407	1,780,000	1,130,000
1852..	467,143	22,643	180,536	8,510	647,679	31,153	1,940,000	1,230,000
1853..	205,207	10,873	157,526	7,760	362,733	18,633	1,080,000	600,000
1854..	294,486	14,930	80,366	4,483	374,852	19,413	1,125,000	712,000
1855..	362,547	17,525	80,981	4,420	443,528	21,945	1,300,000	840,000
1856..	431,249	21,578	81,740	4,231	512,989	25,809	1,530,000	1,075,000
1857..	601,813	27,889	46,138	2,730	647,951	30,619	1,960,000	1,230,000
1858..	681,313	29,089	64,890	3,649	746,203	32,738	2,230,000	1,400,000
1859..	589,947	30,350	97,854	5,007	687,801	35,357	2,060,000	1,300,000
1860..	611,884	31,500	109,780	5,534	721,664	37,034	2,380,000	1,370,000
1861..	684,640	28,233	100,000	3,080	784,640	31,313	2,600,000	1,430,000
1862..	617,327	20,506	90,000	4,700	707,327	25,206	2,300,000	1,200,000
1863..	575,360	19,615	84,000	4,400	659,360	24,015	2,175,000	1,120,000

The disparity shown in the above Table between the departure of transports or carts from, and arrivals at Kiachta, proves that the carters cannot find return loads, a circumstance that must add to the expense of transport.

The three next Tables give the prices at which the principal Russian manufactures are exchanged in barter with the Chinese, viz. :—

1. Prices at Moscow and at Kiachta;
2. Prices of the same goods at Kalgan and at Hankow;
3. Prices of Russian goods conveyed by sea to China.

The fourth Table contains a comparative statement of the relative prices of those goods when conveyed to China by land or by sea.

(Table 6.)—Prices of Principal Russian Manufactures bartered among the Chinese.

1. Cost price at Moscow, including transport to Kiachta.

Meseritz Cloth, 1st quality, per ½ piece of 25 arschines.

	1860.	1861.	1862.	1863.
	Roubles.	Roubles.	Roubles.	Roubles.
In Moscow ..	60 to 63	56 to 63	57 to 61	58 to 63
At Kiachta* ..	65 to 68	61 to 68	62 to 67	63 to 68

Kornovoe Cloth, per ½ piece of 22 arschines.

	1860.	1861.	1862.	1863.
	Roubles.	Roubles.	Roubles.	Roubles.
In Moscow ..	42	42	42 to 44	42 to 44
In Kiachta ..	47	47	47 to 49	47 to 49

Ladies' Cloth,† per arschine.

	R. c. R. c.	R. c. R. c.	
In Moscow	1 30 to 1 75	1 80 to 1 70	
At Kiachta	1 45 to 1 90	1 95 to 1 85	

* With cost of transport of 5 per cent. per pood; ½ piece of cloth, including package, weighs 1 pood.

† The transport of ladies' cloth costs 15 copecks per arschine; 1 piece measuring 33 arschines, with package, weighs nearly 1 pood. This refers to the best quality of ladies' cloth.

Plush, per arschine.*

	Copecks.	Copecks.	Copecks.
In Moscow ..	32 to 42	32 to 44	33 to 48
At Kiachta ..	38 to 48	38 to 50	39 to 54

2. In Kalgan (at the Great Wall) and Hankow (Tea District).

Prices for 1863.

Meseritz Cloth, per ½ piece.

In Kalgan, from 33½ lans to 34 lans 8 chans.
In Hankow, from 32 lans to 36 lans.

Kornovoe Cloth, per ½ piece.

In Kalgan, 24 lans.
In Hankow, from 21 lans to 24 lans.

Ladies' Cloth.

	Per Chinese yard.†	Per Russian yard or arschine.
In Kalgan ..	4 chans 2 fyns	.. 8 chans 2 fyns.
In Hankow ..	9 chans 5 fyns	.. 1 lan 8 chans 5 fyns.

Plush.

Per Chinese yard.
In Kalgan, 1 chan 6 li to 1 chan 3 fyns 2 li.
In Hankow, 2 chans 3 fyns to 2 chans 5 fyns.

Per Russian arschine.
In Kalgan, 2 chans 7 li to 2 chans 5 fyns 8 li.
In Hankow, 4 chans 5 fyns to 4 chans 9 fyns.

Chinese Weights and Money.

100 ket or gins = 147½ Russian lbs.
1 Russian lb. = 14·43 oz. English.
1 lan = 10 chans = 100 fyns = 1,000 li = 10,000 kao.
1 lan in Northern China = 2 roubles 30 copecks = 6*s.* 1½*d.* at 32*d.* to the rouble (par value of rouble is 38*d.*).
1 arschine = 28 inches English.

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* Cost of transport of plush, per arschine of wide plush, about 6 copecks.

† 1 Chinese yard equal to 8⅓ of a Russian arschine.

(Table 7.)—TRANSIT and Incidental Expenses attending the Transport of the Principal Russian Manufactures into China.

From Moscow through Kiachta to Kalgan.

Cloth.

	Meseritz.				Kornovoe.			
	R.	c.	R.	c.	R.	c.	R.	c.
Cost of ½ piece of cloth in Kalgan	73	89 to	79	45	55	82 to	58	4

Ladies' Cloth.

	R.	c.
Cost of a piece of best ladies' cloth in Kalgan ..	71	94
Ditto, 1 arschine	2	18

Plush.

	R.	c.
Cost of a piece of 56 arschines in Kalgan	26	29
Ditto, 1 arschine	0	47

In Hankow.

Cloth.

	R.	c.	R.	c.
Cost of ½ piece of Meseritz	78	33 to	83	97
Ditto Kornovoe	59	87 to	62	12

Ladies' Cloth.

	R.	c.
Cost of a piece of best ladies' cloth	76	46
Ditto of 1 arschine	2	32

Plush.

	R.	c.		R.	c.
Cost of 1 piece	34	37	to	38	47
Ditto of 1 arschine	0	61⅖	to	0	68⅔

(Table 8.)—PRICE of Russian Goods conveyed from Moscow to China by Sea.

By Shanghae through Tien-tsin to Kalgan.

Cloth.

	Meseritz.				Kornovoe.			
	R.	c.	R.	c.	R.	c.	R.	c.
½ piece	74	94 to	80	71	55	93 to	58	24

To Hankow.

Cloth.

	Meseritz.		Kornovoe.	
	R. c. R. c.		R. c. R. c.	
½ piece	71 86 to 77 53		53 32 to 55 49	

Ladies' Cloth.

	R.	c.
Cost of 1 piece, best	70	26
Ditto 1 arschine	2	13

Plush.

	R. c.	R. c.
1 piece of 56 arschines	29 12 to	33 70
1 arschine	0 52 to	0 60⅙

(Table 9.)—Comparative Table of Prices of Russian Goods conveyed to China through Kiachta and by Sea.

To Hankow.

Cloth, ½ piece, (Meseritz).

	R. c.	R. c.
By Kiachta	78 33 to	83 97
By sea	71 86 to	77 43
Difference	6 47 to	6 54

Cheaper by sea than through Kiachta by 8⅓ to 7⅘ per cent.

Cloth, ½ piece, (Kornovoe).

	R. c.	R. c.
By Kiachta	59 87 to	62 12
By sea	53 32 to	55 59
Difference	6 55 to	6 53

Cheaper by sea than through Kiachta by 10⅞ to 10½ per cent.

Ladies' Cloth.

	R.	c.	
By Kiachta	2	32	per arschine.
By sea	2	13	„
Difference	0	19	„

Cheaper by sea than through Kiachta by 8⅕ per cent.

Plush.

	c.	c.	
By Kiachta	61⅖ to	68⅔	per arschine.
By sea	52 to	60⅙	„
Difference	9⅖ to	8½	„

Cheaper by sea by 15⅓ to 7½ per cent.

Although the foregoing Table, No. 9, demonstrates very clearly the unfavourable conditions under which Russian manufactures have to compete with European, and especially with British, goods of the same description in the Chinese markets, it does not tell the whole tale with regard to the depreciation to which Russian manufactures are subjected in the barter trade at Kiachta.

It will be observed from the Returns given in the Tables of Export Nos. 2 and 3, that two-thirds of the Russian export trade to China consist of woollen cloths and cotton goods.

These articles, from various causes unfavourable to manufactures in Russia, are already dearer than goods of a similar description of British manufacture at the place of production, but the expense of transport, by the time they reach Kiachta, renders the price of the merchandize so high that Russian merchants could only sell at a loss if, in their trade with the Chinese, they did not allow the latter to raise in proportion the exchangeable value of the tea and other merchandize which they bring to Kiachta, the Russians themselves looking to the sale of tea in Russia for remuneration of the loss they may sustain and the realization of the profits they require.

It is, therefore, according to this high valuation, resulting from the system of barter, that the price of tea is regulated in the markets of the interior of Russia; so that in fact the consumers of tea have to pay the expense of this trade and the gains of the manufacturers.

On the other hand, by raising the price of the tea considerably above its value, the Chinese traders are enabled to dispose of the Russian manufactures they take in exchange for it, below the price for which they would sell in Russia. M. Tegoborski mentions as an instance of this, that when the French Embassy, under M. Lagréné, proceeded to China in 1843, the commercial gentlemen attached to it found that Russian woollen cloths, which cost at Moscow 50 roubles per half piece of 25 arschines, and the carriage of which to Kiachta had increased the price to 56 roubles 75 copecks, were sold at Soo-chow, 1,050 versts south of Pekin, at 41 roubles 50 copecks, or 17 per cent. below their price at Moscow.

Imports from China to Russia viâ Kiachta.

Silk and Cotton Piece Goods were formerly imported into Russia from China, chiefly for the Siberian market; but that demand is now so amply supplied by home manufactures that this branch of trade can scarcely be said to exist. Sundry articles of Chinese lacquer-work, blinds and baskets of split bamboo, vases, cups, &c., of nephrite, agate, and cornelian, tobacco, dried fruits and sweatmeats, as well as a few shawls and dressing gowns of rich silk embroidery find their way to Moscow and St. Petersburgh, but their amount is too trifling to be taken into consideration, nor have I been able to procure any statements of the quantity and value of goods of this description which were formerly imported into Russia.

Tea may be said to be the sole article of import from China to which the Russian merchant looks to compensate him for the low valuation so often set on his goods at Kiachta.

It was formerly supposed that the Caravan tea was of a better description than the tea which reaches Europe from Canton, and this was thought to be the chief reason of its high price, but such is not the case; the tea imported into Russia by Kiachta, and that exported from China by Canton, comes from the same plant and from the same plantations; the black teas chiefly from the Province of Fukien, the flower and coloured teas principally from that of Nganhwui.

The difference in the qualities depends on the period when the leaves are gathered; this is done three times a year, and the leaves of the first collection are considered the best. The trade is carried on in China by merchants resorting to Kokow in Keangse, the great emporium for the tea from Fukien and Nganhwui.

These traders are divided into two classes, the Se Pang, or Western Company, and the Kwang Pang, or Canton Company; the former, which is the largest, supplies not only the Kiachta trade, but also the northern and western provinces of China, and its extensive dependencies in Mongolia and Turkestan.

The purchases for Russia are generally made by merchants from the Province of Shan-se, who buy tea of the first growth and pay 15 or 20 copecks (5*d.* to 6¼*d.*) per lb. dearer for it, but this is a small item of the charges

that weigh on the article before it reaches the Russian consumer.

The Kiachta merchants assert that the collection and drying of the first crop is carried on with more care than than of the ensuing crops, and give this as the reason for the superiority attributed to the Caravan tea over that of Canton. For a long time it was also supposed that the sea voyage spoilt the flavour of the tea, but this has been disproved by persons qualified to pronounce judgment on the relative flavour of the tea brought by land or by sea. Greater care is also now taken in packing the tea sent by Canton.

Everything connected with this trade is so exceptional that some account of the extraordinary route by which the tea is conveyed to Russia may not be out of place here.

A considerable proportion of the tea destined for the Kiachta overland market is sent direct from Hankow down the Yang-tsi-kiang to Shanghae, some is also sent from Foo-chow and Canton to Shanghae; but most of it is collected in the Province of Fukien to the north-east of Canton, from whence it is dispatched by land or water to Chuh-chan. Thence it is conveyed by coolies, in the manner described by Fortune, over the mountains to Kin-chan. Here the tea is loaded into small boats, taking about 200 chests each; it is then conveyed 40 versts down a stream falling into the Chen-tang, where it is reloaded into boats carrying 500 chests. Passing the town of Hankow, the boats emerge into the Eastern Sea, and coasting along reach the River Kising, up which they proceed to the town of Shanghae. Here the tea is reloaded into larger vessels, carrying as much as 1,500 chests, besides other goods; these vessels, after leaving Shanghae proceed along the coast to Tien-tsin, which place they reach, if the weather is favourable, in about fifteen days.

The tea is once more reloaded at Tien-tsin into small boats, taking about 200 chests, which follow the windings of the stream Barkoe and reach Tien-shae, about 22 versts from Peking, in the space of ten days.

From this point the tea is transported by land on camels and in bullock-carts to the frontier fortress Changkea-kow or Kalgan, at the great wall, a distance of about 252 versts, and thence across the Steppe or Desert of Gobi, 1,282 versts, to Kiachta.

The transport of tea from Fukien to Kiachta occupies two or three months according to circumstances.

The towns of Kiatchta and Maimatchin, situated on the respective frontiers of Russia and China form, as is well known, the seat of the caravan tea trade. The inhabitants of these towns, which are merely separated from each other by a barrier, are allowed free access to each other throughout the day, but a total separation during the hours of night is strictly enforced. The traders in Maimatchin consist solely of parties engaged in the traffic, numbering altogether about 1,500 persons, and are placed under the superintendence of Mandchoo officers sent from Peking. They belong chiefly to the Northern Provinces of Chihle and Shanse, and continue in the trade for a series of years, going and returning with their goods, and never being allowed to take with them their wives and families. Many or most of them speak Russ, transformed however into a peculiar patois, which is extensively adopted by both parties in their oral communications. It is generally understood that the Chinese manage to get the advantage over the Russian traders, since, while very few chests of tea remain unsold, Russian goods are often so depreciated in value that they are obliged to wait a second and sometimes even a third year for a market. The arrival of the Chinese dealers with their teas at Maimatchin is the signal for the commencement of the annual trade. The foremost of them appear in October, but as stocks must be received, and the condition of the business of the season be known before the barter rates can be determined, transactions are not immediately entered on, and the winter, or close of the year, becomes, therefore, the most active period of the trade which is concluded with the return of spring. At Kiachta the chests of tea are packed in raw hides to secure them against the damage they would otherwise sustain from constant exposure to concussion and at times to moisture.

From Kiachta the winter route is by Selenginsk and Verkne-Udinsk, and across Lake Baikal, over the ice to Irkutsk, a journey of from seven to eight days.

This winter route is generally available from the middle of January to the middle of April. Lake Baikal is 350 miles long, and 40 miles broad, there is occasionally great difficulty in crossing it in consequence of its surface being free from snow, as it is seldom completely frozen over till the snowfall has ceased, the sledges that traverse it are consequently provided with iron cramps on either side, the horses being heavily roughed; in some instances, with

a fair wind, a sail is hoisted and horses are dispensed with. This would seem to point to a practical adaptation, for purposes of transport across Lake Baikal, of ice-boats such as are used for pleasure on the Neva, in the winter, at St. Petersburgh.

At Irkutsk, the capital of Eastern Siberia, part of the tea is retained for sale in that province, and of the January arrivals a portion is forwarded to the fair of Irbit. At this fair purchases are made for Western Siberia, and for the Governments of Perm, Kazan, Archangel, Orenburg, Viatka, and Vologda. The tea dispatched in February to Tomsk generally remains there during the spring, at which time the roads are impassable, and in the month of May it is sent from Tomsk to Tiumen, partly by land, but chiefly by water, that is to say by the River Tom into the Ob, from the Ob into the Irtisch, and thence into the Tara, by which stream it reaches Tiumen about the latter end of June. From Tiumen the tea is conveyed by land to Perm, a journey of about twelve days; here it is loaded into craft on the Kama, down which river it is carried into the Volga at Kazan, and thence up the Volga to Nijni-Novgorod, which place it reaches about the end of July. Nijni is now connected with Moscow by railway, a journey for passengers of twelve hours. The transit from Kiachta to Nijni-Novgorod often occupies six months owing to the delays occasioned by the ice in the rivers, but it is sometimes performed in half the time.

The distances by this route are as follows:—

	Versts.
From Kiachta to Irkutsk ..	557
„ Irkutsk to Tomsk ..	1,554
„ Tomsk to Tiumen ..	1,768
„ Tiumen to Kazan ..	1,236
„ Kazan to Moscow ..	821
Total	5,936 = 4,452 miles.

The distance from the tea growing districts to Kiachta is reckoned at 5,000 versts, making a total of 10,936 versts (7,291 miles), which the Caravan tea has to traverse before it reaches the Moscow market.

When the Lake Baikal is open the tea is despatched from Kiachta in carts to the mouth of the River Selenga, from whence it is conveyed in larger merchant-boats across the lake to the mouth of the Angara; here it is reloaded into "carbashes" (flat-bottomed barges), which float down

the Angara to Irkutsk. When the wind is fair this passage lasts but a few hours, but with an adverse wind it takes several days, sometimes even a month.

The water communication between Eastern Siberia and Western Russia is very circuitous; the distance by water, for instance, from Omsk to Tiumen is 3,000 versts, and by land only 632. This has naturally attracted attention, and proposals have been made for connecting some of the Siberian rivers by canals and railroads.

Thus, for instance, it is said a complete water route may be made from Tiumen to Kiachta by the Ob, the Tom, and the Tchulim uniting this last named river by a canal 30 or 40 miles in length with the Jenissei, the Angara, and Lake Baikal, and across the lake up the Selenga to a point about 18 miles from Kiachta, thus establishing uninterrupted water navigation from the neighbourhood of the Ural Mountains to the frontier of China. The difficulty of making the Angara navigable may render this plan impracticable, but where the break in the line of continuity occurs it might be completed by rail.

The gain to commerce, could such an undertaking be effected, would be very great, and it would give employment to the coal and iron works of Siberia. The requisite steamers, rails, and locomotives might be manufactured on the spot; and I have been assured by Siberian proprietors, some of whom are the wealthiest noblemen in Russia, that they would gladly give the necessary land and timber for nothing could they thereby attract sufficient capital for carrying out a plan which would procure them a market for the produce of their mines.

The tea trade of Russia with China, which may be said to have begun in 1792, increased in the following proportion:—

	Poods.
In 1792 the importation was	6,851
1797 „ „	12,799
1802 „ „	21,581
1807 „ „	39,791

About this time tea began to be very generally used in Russia, and in Irkutsk it had already become an article of daily necessity, being drunk twice a day in almost every house. The importation of good ordinary tea amounted to—

	Poods.		Poods.
In 1811 ..	46,406	In 1816 ..	55,784
1812 ..	24,729	1817 ..	60,648
1813 ..	67,583	1818 ..	83,019
1814 ..	42,375	1819 ..	84,773

From 1820 to 1836 the consumption varied but little, but in the following years a great development in the importation took place.

The importation of seaborne tea from Europe was permitted from the year 1724 to 1816, and later from the year 1819 to 1822. But in that year the introduction of seaborne tea was strictly prohibited except at the free port of Odessa; a measure that was adopted with the view of encouraging the trade of Kiachta.

The tea formerly imported from Europe paid different duties at various periods. From 1724 to 1731 the Tariff for tea imported by the land frontier was 10 copecks per lb.—

	R.	c.	
In 1754	0	26	per lb.
1757	0	36	„
1766	0	52½	„
1775 by the Black Sea ports	0	25½	„
1782 by Custom-houses and seaports ..	0	80	„
1796 and 1797	1	50	„
1816–22	1	50	„

From the 15th August, 1819, when Odessa was declared to be a free port, seaborne tea was allowed to be imported for the benefit of that town on payment of a duty of 30 copecks per lb., or one-fifth of the duty fixed by the Tariff of 1819, of 1 rouble 50 copecks per lb.

By the Kiachta Tariff of 1841 the duties on tea were fixed as follows:—

	Copecks.	
Best green tea	75	per lb.
Ordinary ditto	47	„
Flowery and ordinary black ..	60	„
Stove	10	„
Brick	6	„

After the opening of the Chinese ports to European commerce in 1843 an Ukase dated $\frac{20\text{th July}}{11\text{th August}}$, 1845, reduced the duties on ordinary teas one-third, with the view of assisting the Kiachta trade,—*i. e.*, from 60 copecks to 40 copecks per lb., and, in order to cover the consequent loss to the revenue, raised the duty on finer teas from 60 copecks to 80 copecks.

From the 15th August, 1849, when Odessa ceased to

be a free port, to 15th August, 1857, a duty of 90 copecks per lb. was levied on the importation of tea at that port, 60 copecks of which went to the Exchequer, the remaining 30 copecks being laid aside for the benefit of the town.

In 1850 the Russian American Company was allowed to import (till 1854) 4,000 chests of tea, to be sold at St. Petersburgh, in the Baltic Provinces, and in Finland, on payment of an extra duty of 30 copecks over and above the Kiachta Tariff, or 1 rouble for flower tea and 70 copecks per lb. for ordinary black tea.

The Russian American Company obtained later a further permission, extending to the expiration of their Charter in 1861, to import 8,000 chests of tea from Shanghae, with the privilege of selling it not only at the places above-mentioned but in all the provinces of the interior, except at Moscow and Nijni Novgorod during the period of the fair.

In 1861 the restrictions on the Kiachta trade with regard to the employment of gold and silver and paper currency were removed.

In 1862 all Chinese goods were allowed to be imported free of duty excepting teas, wine, and spirits distilled from corn, which were entirely prohibited. The only articles the exportation of which into China was prohibited were arms, ammunition, powder, and opium.

On the $\frac{1}{13}$th April, 1862, the importation of seaborne tea was permitted by the European land frontier, on payment of 30 copecks per lb. for black ordinary tea, the duty on flower, green, and yellow tea being 60 copecks per lb.; and by the seaports, ordinary black tea paying a duty of 35 copecks per lb.; and flower green and yellow tea a duty of 65 copecks per lb.; while by the Kiachta or Caravan route the duties were reduced on the fine and coloured teas to 40 copecks (1*s.* 1*d.*) per lb., and ordinary to 15 copecks (5*d.*) per lb.; and on brick teas to 2 copecks (about $\frac{1}{2}$*d.*) per lb.

The Custom-houses on the land frontier, at which this importation of Canton tea was allowed, were Warsaw, Wierzbolow, Neuchansk, Schtchipiorn, Sopnovitsk, and Granitsk; the seaports being St. Petersburgh, Archangel, Riga, Reval, Libau, Odessa, Theodosia, and Taganrog.

In the Caucasian and Trans-Caucasian Provinces, Canton tea was allowed to be imported at the Custom-houses of Bakow, Djébrail, Nakhitchevan, Alexandropol, Akhaltz, Poti, Soukoum-Kalé, Otchumschirsk, Anapa, and

Yeisk, a permission which was extended later to Kertch, and on the $\frac{14}{26}$th December, 1863, to the Polangen Custom-house.

On the 23rd May, 1865, the duties on tea imported at Russian Custom-houses in Europe, by sea and land, were assimilated, being fixed at 50 copecks per lb. (1*s.* 4*d.*), (at 32*d.* per rouble, the exchange I have taken throughout this paper), on flower, green, and yellow tea, and 35 copecks (11*d.*) on ordinary black tea.

Lastly, at the request of the Governor of Kiachta, brick tea is allowed to enter Russia at all Custom-houses where Kiachta teas are passed, on payment of a duty of 5 copecks per lb., and as an experiment for three years.

The following Tables show the amounts of the different kinds of tea imported into Russia during a period of twenty-seven years from 1837 to 1863 inclusive, and the amounts of the duties received on the same during that period.

(No. 1.)—IMPORTATION of Teas.

Years.	Chests of Flower, Green, and Yellow Teas.	Weight in poods.	Chests of Family Tea. (Torgovi.)	Weight in poods.	Brick Tea. No. of Chests.	Weight in poods.	No. of Chests of Common Tea. (Baikov.)	Weight in poods.
1837	35,380	51,581	41,795	82,634	19,030	58,161	77,590	134,215
1838	34,160½	49,504	39,558½	78,141	23,574	70,801	74,044	127,645
1839	40,092	57,522	42,283	84,475	21,545	64,099	83,015	141,997
1840	37,289	53,657	47,391	96,074	21,464	64,475	84,907	149,731
1841	44,678	64,730	50,574	103,488	24,873	74,390	95,755	168,218
1842	50,863	74,277	57,632	119,136	21,435	64,382	109,100	193,413
1843	45,677	67,221	33,438	68,688	29,253	87,834	79,809	135,909
1844	55,812	82,435	45,254	92,819	27,281	82,042	101,802	175,254
1845	55,868	83,952	54,237	111,571	41,455	124,396	110,905	195,523
1846	69,795	90,320	65,518	137,332	36,452	109,695	126,710	227,652
1847	55,819	82,968	66,520	141,038	42,364	125,646	122,502	224,006
1848	47,774	69,993	85,208	183,753	39,480	116,249	133,197	253,746
1849	40,961	61,821	47,517	103,267	40,773	119,465	88,809	165,088
1850	36,079	53,049	72,898	158,130	30,180	85,440	109,249	211,179
1851	31,583	45,946	89,692	193,918	33,124	92,515	121,591	239,864
1852	37,568	54,596	87,549	189,517	43,989	121,036	125,303	244,113
1853	11,864	17,628	28,873	62,574	23,592	65,943	40,939	80,202
1854	16,530	23,724	58,494	125,747	31,105	86,944	75,159	149,471
1855	15,115	22,182	70,239	151,718	34,161	93,737	85,448	173,900
1856	24,865	36,746	90,859	197,363	30,663	87,726	116,111	234,109
1857	23,374	34,364	123,061	267,525	43,508	125,024	146,718	301,889
1858	20,279	29,971	116,345	253,295	65,746	177,294	136,865	283,266
1859	16,777	24,913	136,295	297,506	46,946	123,267	153,361	322,419
1860	10,390	15,433	148,927	327,038	44,126	111,107	159,411	342,471
1861	12,657	18,929	141,907	316,963	58,759	159,035	154,564	335,892
1862	15,216	22,834	141,273	316,812	44,181	116,122	156,489	339,646
1863	22,415	33,747	94,262	213,354	63,072	166,055	116,750	247,101

(No. 2.)—Amount received from Duties levied on Tea.

In silver roubles.

Years.	On Tea imported by Kiachta.				On Tea from Western Provinces of China.				On Tea imported from Canton.				Grand Total.
	Flower.	Commercial.	Brick.	Total.	Flower.	Commercial.	Brick.	Total.	Flower.	Commercial.	Brick.	Total.	
1837 ..	1,102,625	1,760,104	116,322	2,979,051	..	..	..	..	While Odessa was a free port.	18,900	..	18,900	2,997,951
1838 ..	1,057,547	1,664,403	141,602	2,863,552	..	..	..	..		18,720	..	18,720	2,882,272
1839 ..	1,231,305	1,799,318	129,398	3,160,021	..	..	..	..		20,316	..	20,316	3,180,337
1840 ..	1,145,068	2,046,376	128,950	3,320,394	..	..	..	..		24,024	..	24,024	3,344,418
1841 ..	1,383,531	2,204,294	148,780	3,736,605	..	..	..	..		23,748	..	23,748	3,760,353
1842 ..	1,583,006	2,542,443	128,764	4,254,213	..	..	..	..		32,280	..	32,280	4,286,493
1843 ..	1,616,599	1,645,380	210,801	3,472,780	..	..	..	..		28,932	..	28,932	3,501,712
1844 ..	1,981,950	2,227,656	196,901	4,409,507	..	..	..	..		26,508	..	26,508	4,436,015
1845 ..	2,022,054	2,677,704	298,550	4,998,308	..	..	..	..		35,844	..	35,844	5,034,152
1846 ..	2,741,490	2,410,088	263,268	5,414,846	..	..	..	..		60,048	..	60,048	5,474,894
1847 ..	2,637,444	2,300,040	301,550	5,239,034	..	..	..	..		63,984	..	63,984	5,303,018
1848 ..	2,233,754	2,954,936	278,998	5,466,688	..	..	..	..		85,524	..	85,524	5,551,212
1849 ..	1,842,036	1,663,584	286,716	3,792,336	..	..	..	..		79,992	..	79,992	3,872,328
1850 ..	1,495,488	2,530,080	205,056	4,230,624	..	..	..	..		39,276	..	39,276	4,269,900
1851 ..	1,286,846	3,104,584	222,036	4,613,462	..	199,157	20,505	219,662		41,040	..	41,040	4,874,164
1852 ..	1,530,700	3,033,682	290,486	4,854,868	..	187,700	19,171	206,871		65,916	..	65,916	5,127,655
1853 ..	495,230	1,002,808	158,263	1,656,301	..	274,794	13,281	288,075		114,660	..	114,660	2,059,036
1854 ..	664,376	2,011,952	208,666	2,884,994	3,305	702,825	23,084	729,214		83,844	..	83,844	3,698,052
1855 ..	621,244	2,427,495	224,969	3,273,708	1,372	186,498	10,619	198,489		44	..	..	3,472,241
1856 ..	1,029,030	3,157,808	210,542	4,397,380	453	21,583	14,694	36,730		627	..	..	4,434,737
1857 ..	961,408	4,280,400	300,058	5,541,866	846	31,956	11,494	44,296		250,020	..	250,020	5,836,182
1858 ..	839,188	4,052,720	425,506	5,317,414	..	91,822	21,390	113,212		..	..	..	5,430,626
1859 ..	697,577	4,760,097	295,042	5,753,516	..	48,588	21,835	70,423		..	..	..	5,823,939
1860 ..	432,123	5,232,614	266,658	5,931,395	452	100,351	7,136	107,939		..	..	..	6,039,334
1861 ..	460,988	3,790,525	238,609	4,490,132	592	74,715	4,841	80,148		..	..	..	4,570,280
1862 ..	365,342	1,900,875	92,897	2,359,114	1,392	102,209	3,011	106,612	351,514	2,939,005	305	3,290,824	5,756,550
1863 ..	566,954	1,344,129	139,485	2,050,569	1,409	68,548	1,883	88,777	254,186	3,249,640	54,313	3,558,139	5,697,485

The annual average importation of tea from China from 1837 to 1862 was as follows:—

	Common Tea.		Brick Tea.	
	Chests.	Poods.	Chests.	Poods.
1837–41 ..	83,062	144,361	22,097	66,505
1842–52 ..	111,725	205,977	36,890	102,609
1854–56 ..	92,239	185,826	31,976	92,802
1857–62 ..	151,235	320,921	50,544	135,308

In 1863 the importation of common black tea was less by 73,000 poods (2,920,000 lbs.) than the average importation from 1856 to 1862.

The variations in the Kiachta trade, which are shown in these Tables, arose from the attempts of the Russian traders to increase the price of their goods in barter with the Chinese.

Thus, for instance, in 1842, in spite of the prices having been raised 30 per cent. above those of the previous year, a very good business was carried on at Kiachta. Encouraged by this success, the Moscow merchants increased the price of their merchandize in 1843 by an additional 15 per cent. This met with great opposition on the part of the Chinese, and brought about a stagnation of business, and a reduction in the receipts of the Custom-house for that year.

The same thing occurred in 1848, the result being that the duties on tea fell from 5,466,688 to 3,792,336 in 1849.

But the most severe crisis, from which the Kiachta trade suffered, occurred in 1852. The demand for tea in the interior of Russia having greatly diminished, the result, probably, of the contraband trade, and the Chinese having brought large supplies of tea to Maimatchin, the Russians raised their prices 50 per cent. This brought all trade to a standstill, and next year very few Chinese came to the market, the supplies of tea being so small that the receipts of the Kiachta Custom-house fell from 4,854,868 in 1852, to 1,656,301 in the following year.

The effect on the trade produced by the abolition of the Kiachta monopoly, and by the legal importation of sea-borne tea in 1862, is seen in the receipts of the Kiachta Custom-house for that year, which fell from 4,490,114 in 1861, to 2,359,114 in 1862.

This loss on the Kiachta frontier was, however, made good by the new importation on the European frontier,

the sum total of the duties on tea received throughout the Empire for 1862 being 5,756,000 roubles.

Brick tea, as will be seen from the foregoing Tables, is a very important item in the Russian tea trade. It is made of the coarsest, full-grown leaves of the tea plant, which are dipped in sheep's blood, kneaded into a kind of paste, and pressed into cakes of the form of bricks or tiles. It is a great necessary of life among the Calmucks and nomades of Mongolia, as well as for the Kirghese and other tribes of Central Asia, who boil it in milk, and with the addition of flour, butter, and salt, eat it as a kind of soup. The use of this description of tea is, however, exclusively confined to the Tartar population of Russia and to the nomadic tribes, tea in this form being scarcely known to the Russian peasant.

As brick tea, however, is imported into Russia Proper in very large quantities, it becomes a question of interest to discover in what way it is employed, and this the following statement, which is derived from an official source, explains.

From the year 1830 the barter trade in brick tea was carried on along the entire frontier of the Government of Irkutsk, free of duty.

The amount of brick tea, therefore, which pays duty at Kiachta, is destined for the use of the Tartars and Calmucks living in European Russia.

The importation of this article amounted in 1792 to 11,551 poods; in 1797 to 21,522 poods; and in 1802, to 23,451 poods: consequently in ten years it had increased two-fold.

In 1807 the importation amounted to 33,712 poods, but from this period it gradually diminished, so that in 1814 only 9,080 poods were imported viâ Kiachta, this diminution being due, no doubt, to an extensive system of contraband trade which was carried on with China by the inhabitants of the Trans-Baikal Provinces. However, in 1817, the importation of this description of tea again improved, a proof that a fresh market for it had been found in Russia, the importation for that year being 41,004 poods. In 1836 it had increased to 79,455 poods, and from this period, although it fell occasionally to 60,000 poods, the demand for it was steadily on the increase; in 1845 it reached 124,396 poods; in 1846, 109,695 poods; and in 1847 it amounted to 125,646 poods.

It was not probable that this great increase in the demand should have come from Tartars and Calmucks, for whose use alone it was originally imported, and it was evident that some new means of employing brick tea had been discovered, though it was difficult to say what it could be, since, as has been stated above, the lower orders in Russia scarcely know it by name.

If this tea had been only required for the Tartars and Calmucks, it would not have been conveyed beyond Kazan, whereas the largest markets for it were Nijni Novgorod, Moscow, and St. Petersburgh. In Irkutsk a pound of the most ordinary description of black tea cost, up to the year 1854, 1 rouble 70 copecks, while in St. Petersburgh the same description of tea could be bought for 1 rouble 50 copecks. It was evident from this, either that the tea merchants of Irkutsk must have made enormous profits, or that the St. Petersburgh traders must have sold at a great loss.

But the contrary was the case, the trade in flowery and the so-called family tea having been so unfavourable for the Irkutsk wholesale dealers that many of them were obliged to give up the business, while at the same time the number of tea shops at Moscow and St. Petersburgh was steadily on the increase, as proof that the tea trade in European Russia was a profitable business, whilst it was in Siberia it was a losing one. It was found, however, that the very commonest description of tea received from Irkutsk in well-closed cases was superior in quality to the tea sold at St. Petersburgh for 2 roubles per pound. On inquiry being made as to the quarter from whence this tea was procured, the tea dealers at St. Petersburgh stated, that it came from Semipalatinsk; but the distance from that place to St. Petersburgh is more than 3,000 verts, so that, if the trade could purchase tea at Semipalatinsk at 1 silver rouble per pound, the expense of carriage, warehouse, price current, sealed envelopes, &c., and ever so small a profit would have increased the price to 2 roubles; whereas tea of this description was to be had at St. Petersburgh at 1 rouble 40 copecks per lb. Besides which, the regular importation from Semipalatinsk was by no means equal to the great demand for cheap tea which had arisen at the two capitals, St. Petersburgh and Moscow, to say nothing of the demand in other parts of the Empire. In 1836, when the barter trade was first opened at Semipalatinsk, the importation

amounted only to 9 poods, and although in 1847, it had increased to 2,374 poods, this, it is clear, was a most insufficient supply for the demand; the legal importation of brick tea for that year having reached 125,646 poods.

The Siberian merchants living in the capital were for a long time at a loss to understand whence the tea dealers procured such a cheap and common description of tea, and they were much surprised at the unusual size of the leaves and at the stalks found in it, as well as at the turbid and reddish colour of the decoction.

At length attention was drawn to the enormous importation of brick tea.

It was known that the inhabitants of the Trans-Baikal Provinces used this tea, but whence came the demand for it in Russia Proper, which in 1858 reached the amount of 177,294 poods, or 7,091,760 lbs. Russian. It could not be for the Calmucks and Tartars: the inhabitants of the district of Nortschinsk, who are known to be the greatest drinkers of brick tea, did not number more than 120,000 persons of both sexes. Giving them an average annual allowance of 10 lb. per head, this would account for 30,000 poods. Taking the Tartar and Calmuck population of European Russia at 260,000, and allowing them also an average annual consumption of 10 lbs. per head, this would account for 65,000 poods, or 2,600,000 lbs., but there still remains 82,294 poods to be accounted for.

The teas called "Torgovy" and "Baikovy," which are various qualities of Pekoe and Congou, are only prepared from the young leaves of the tea plant; the younger the leaves the better the tea, and no stalks or twigs are ever to be found in it. On the other hand the brick tea is prepared with the full grown leaves perhaps, indeed, from a different shrub, which appear to be plucked from the plant with the stalks and twigs, and which after having been soaked in sheep's blood are pressed in wooden forms.

If, therefore, among the small leaves of the "Torgovy," or "Baikovy" tea, a single stalk or long reddish leaf is found, the probability is that the tea is a mixture.

The Siberian merchants, whose taste in tea is most delicate, hit upon a plan for discovering the nature of this mixture. Taking tea at the price of 1 rouble 50 copecks per lb., they poured hot, but not boiling, water upon it; this gave out the peculiar smell of used and dried tea leaves; after pouring this off, the addition of still hotter

water produced a strong smell of brick tea; this being thrown away, boiling water was poured into the teapot and brought out the true flavour of the black tea in general use. From this the Siberians concluded that the mixture they had purchased was composed of one-third pure tea, one-third of tea leaves that had been already used and dried, and one-third of brick tea; the whereabouts of the 82,294 poods of brick tea was no longer an enigma

Supposing, therefore, the trader who sold this mixture to have purchased the cheapest description of Kiachta tea, to be had at St. Petersburgh, at that time, for 1 rouble 50 copecks per lb. (4*s.*), one-third of a pound of such tea would have cost him 50 copecks (1*s.* 4*d.*), one-third of a pound of brick tea, 16 copecks (5*d.*), the remaining third of dried leaves he could get for nothing; so that a pound of tea sold in the shops at 1 rouble 50 copecks (4*s.*), would have cost him only 66 copecks (1*s.* 9*d.*), a profit which fully accounts for the yearly increase in the number of the tea shops.

The mode in which the barter trade is carried on at Kiachta is exemplified in the following Table:—

(Table 3.)—Price of Teas at Kiachta.

Years.	Qualities.	In Exchange for Precious Metals. Per lb.	In Exchange for Merchandize. Per lb.	Average Price of Baikow Teas. Per lb.		Average Price of Brick Tea. Per lb.
		R. c. R. c.	R. c. R. c.	R. c. R. c.	R. c. R. c.	
1850–52	Flowery—					
	Superior	0 84$\frac{1}{7}$ to 0 88$\frac{5}{7}$	1 23$\frac{1}{2}$ to 1 30$\frac{1}{2}$	0 60 to 1 30$\frac{1}{2}$	—	—
	Family	0 61 to 0 78$\frac{2}{7}$	0 89$\frac{1}{2}$ to 1 15			
	Sansin	0 60 to 0 74$\frac{5}{7}$	0 88$\frac{1}{4}$ to 1 9			
	Commercial—					
	Super Hun-mei ..	0 54	0 70$\frac{1}{3}$	—	0 32$\frac{2}{7}$ to 0 70$\frac{1}{5}$	—
	Family	0 46$\frac{4}{7}$	0 58$\frac{1}{5}$			
	Sansen	0 32$\frac{2}{7}$ to 0 44$\frac{6}{7}$	0 40$\frac{1}{3}$ to 0 56			
1856	Flowery	1 0 to 1 10	1 20 to 1 27$\frac{1}{4}$	1 0 to 1 27$\frac{1}{4}$	—	—
	Commercial—					
	Family	0 71$\frac{1}{4}$ to 0 80	0 77$\frac{1}{3}$ to 0 86	—	0 62$\frac{1}{2}$ to 0 86	—
	Sansen	0 62$\frac{1}{2}$ to 0 70$\frac{1}{4}$	0 75 to 0 80			
1857	Flowery	—	—	0 80	—	—
	Commercial	—	—	—	0 50	—
1860	Flowery—					
	Family	1 0 to 1 5	0 83 to 0 93	0 83 to 1 5	—	—
	Commercial—					
	Family Hun-mei ..	0 67 to 0 70	0 55 to 0 62	—	0 33 to 0 70	—
	Ordinary family ..	0 57 to 0 60	0 43 to 0 57			
	Sansen	0 45	0 33 to 0 46			
	Brick—					
	Pekin	0 24	—	—	—	24 copecks.
	Ordinary	0 16 to 0 18	0 20	—	—	16 to 20 copecks.

Price of Teas—*continued.*

Years.	Qualities.	In Exchange for Precious Metals. Per lb.	In Exchange for Merchandize. Per lb.	Average Price of Baikow Teas. Per lb.		Average Price of Brick Tea. Per lb.
		R. c. R. c.	R. c. R. c.	R. c. R. c.	R. c. R. c.	
1861	Flowery—					
	Family	0 97 to 1 23	1 0	0 97 to 1 23	—	—
	Commercial—					
	Family Hun-mei ..	0 65 to 0 82	0 67			
	Ditto ordinary ..	0 55 to 0 65	0 55 to 0 57	—	0 47 to 0 82	—
	Sansen	0 48 to 0 51	0 47 to 0 51			
	Brick—					
	Pekin	0 24	—	—	—	24 copecks.
	Ordinary	0 16 to 0 18	0 20	—	—	16 to 20 copecks.
1862	Flowery—					
	Family	1 0 to 1 6	0 91 to 0 99	0 91 to 1 23	—	—
	Commercial—					
	Family Hun-mei ..	0 68 to 0 70	0 61 to 0 66			
	Ditto ordinary ..	0 57 to 0 59	0 60 to 0 65	—	0 46 to 0 70	—
	Sansen	0 46 to 0 50	0 50 to 5 54			
	Brick—					
	Ordinary	0 16 to 0 19	0 20	—	—	16 to 20 copecks.
1863	Flowery—					
	Family	1 20 to 1 22	0 98 to 1 30	0 98 to 1 30	—	—
	Commercial—					
	Family Hun-mei ..	0 68 to 0 87	0 63 to 0 66			
	Ditto ordinary ..	0 67 to 0 69	0 56 to 0 59	—	0 50 to 0 87	—
	Sansen	0 57 to 0 62	0 50 to 0 69			
	Brick—					
	Ordinary	0 18 to 0 20	0 19	—	—	18 to 20 copecks.

As has been stated above, the prohibition to export the precious metals in the Kiachta trade (which was in force till 1854), gave a fictitious value to gold and silver, and those traders, who paid illegally for the tea they purchased with specie, bought it cheaper than those who paid for it in merchandize. But as soon as the prohibition was removed, the precious metals took their natural place in the trade as merchandize, so that, if the exchange for gold and silver was low, the price of tea when bartered for the precious metals was higher than when it was bartered for merchandize. Thus the foregoing Table shows that, in 1850 to 1852, tea could be bought cheaper for precious metals than for merchandize, by 25 per cent. to 48 per cent, and in 1856 by 8 per cent. to 20 per cent.; but in 1860 tea could be purchased at a cheaper rate in exchange for merchandize than for gold and silver, by from 15 per cent. to 33 per cent.

The teas mentioned in this Table are those most in demand at Kiachta. The superior flowery teas belong to that class which in the Chinese markets are called by European traders pekoe-congou; they are composed of a mixture of pekoe and congou, with more or less of the flower and with black tea of different qualities. The other flowery teas mentioned in this and the following Tables belong to the pekoe class, and are principally exported from Foo-chow.

The Sansin flowery tea which the Chinese merchants bring to Maimatchin is the most inferior of the Kiachta flowery teas, and is frequently sold by them for less than the lower kinds of family commercial tea; it is a bad black coloured tea with a small proportion of the flower.

The superior Oonan and Oopak, called in Russian "Hunan" and "Hubei," teas from the provinces Hoonan and Hoopeh, mentioned in the next Table, are the same as those which were imported into Russia from London in 1863, under the common name of monings; they are of a finer quality than the best commercial teas brought from Maimatchin, from which it may be inferred that the Chinese do not bring to Maimatchin the superior kinds of black tea of the first growth. The teas of the third growth imported from Hankow, belong to the best of the inferior classes of black teas; they are inferior in quality to the cheap commercial teas brought by the Chinese to Maimatchin, under the name of inferior Sansin teas, and

they are far better than the lower kinds of black teas which used to be disposed of in London, and which, though sold under the general name of congou, are believed to belong to the lowest classes of black bohea, a tea which is not exported from Hankow, but from the Chinese seaports, from Japan, the Corea and the Loo-chow Islands, &c.

The inferior descriptions of pekoe are cheaper in Hamburgh than in London by 8 copecks per lb., and this tea brought to Moscow will cost about 10 copecks (3*d.*) per lb. cheaper than that from London, but at the same time the quality of the former will probably be inferior.

The following Tables show:—

1. The prices paid in the tea-growing districts of China for the qualities of tea most in demand at Kiachta.

2. The expenses of transport of tea from the different places of growth by Shanghae to Tien-tsin, and thence to Kalgan and Kiachta.

3. Cost of transport from Kiachta to Nijni-Novgorod and Moscow.

4. Cost of transport by sea from the tea-growing districts to St. Petersburgh at Moscow.

5. Cost of tea brought from London by sea to St. Petersburgh, and thence by rail to Moscow.

6. Cost of tea conveyed by sea from London to Königsberg, and thence by rail to St. Petersburg and Moscow.

7. Comparative costs of tea and conveyance by the different routes to Moscow.

The details contained in these Tables will, I think, be of interest to persons engaged in the tea trade in England.

(Table 1.)—Cost of Tea* in the Tea-growing Provinces of China at Hankow (on the Yang-tze-kiang).

From the Provinces of (Hoonan and Hoopeh) Hunan and Hubei† (Baikow Teas).

	In Chinese money for 100 gins weight.			Russian money, per lb.		
	1st Growth.	2nd Growth.	3rd Growth.	1st Growth.	2nd Growth.	3rd Growth.
	Lans.	Lans.	Lans.	Copecks.	Copecks.	Copecks.
In 1861 to middle of 1862 ..	20 to 23	16 to 19	10 to 15	$31\frac{1}{5}$ to 36	25 to $29\frac{2}{3}$	$15\frac{2}{3}$ to $23\frac{2}{5}$ (5*d.*)
Second half of 1862 ..	23 to 29	$15\frac{1}{2}$ to $19\frac{1}{2}$	—	36 to $45\frac{1}{5}$	$24\frac{1}{4}$ to $30\frac{1}{2}$	—
1863‡	23 to 37	$13\frac{3}{4}$ to 34	—	36 to $57\frac{2}{3}$	$21\frac{1}{2}$ to 53	—

1 Lan = 2 Roubles 30 copecks = 6*s.* $1\frac{1}{2}$*d.*

* Without duty or other expenses.

† A kind of Congou known in Europe as Oonan and Ooopak and imported into Russia by western frontier under the common name of Monings.

‡ In consequence of bad crops in 1862 and 1863 there was a largely increased demand, and the tea rose in price.

(Table 1.)—Prices of Tea in Tea-growing Provinces at Canton, in the Second Half of 1863.

BAIKOW TEAS.

Qualities.*	For 100 gins, in Chinese Money.	Per Russian lb.	
		At 2 R. 30 cop. per Lan.	At 2 R. 60 cop. per Lan.
	Lans.	Copecks.	Copecks.
Scented Flowery ..	19 to 33	29⅔ to 51½	33½ to 58⅓
Congou	36 to 39½	56 to 61⅔	63½ to 69⅔
Tuisan Congou	23 to 32	35⅔ to 49⅕	40½ to 56⅔
Caper..	17 to 27	26½ to 42	29 to 46⅔

Prices of Tea at Foo-chow (in the Province of Foo-chow) during the Second Half of 1863.

BAIKOW TEAS.

Qualities.*	For 100 gins, in Chinese Money.	Per Russian lb.	
		At 2 R. 30 cop. per Lan.	At 2 R. 60 cop. per Lan.
	Lan ch. Lan ch.	R. c. R. c.	R. c. R. c.
Best Flowery ..	64 7	1 1	1 14
Medium ditto ..	29 7 to 49 2	0 46⅓ to 0 76¾	0 52⅓ to 0 86¾
Congou	9 7 to 32 7	0 15 to 0 51	0 17 to 0 57⅔
Souchong, medium .	25 7 to 36 7	0 40 to 0 57¼	0 45⅓ to 0 64⅔
Scented, medium ..	16 7 to 35 7	0 27⅔ to 0 55⅔	0 29⅔ to 0 62⅔

The Russians value a Lan at 2 roubles 30 copecks, but by the Chinese it is reckoned 2 roubles 60 copecks.

* Only those qualities of tea are mentioned which can be imported into Russia.

(Table 2.)—Transport of Teas from Tea Provinces of China to Kiachta.

Commercial Tea from Hankow.

	Third growth.		First growth.	
	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Chest of 110 lbs. Russ	19 44 to	29 15	44 55 to	71 72
Commission 4½ per cent.	0 88	1 32	2 1	3 23
Package, &c.	0 90	0 90	0 90	0 90
General European Tariff duty, with 6¼ c. transit due	6 88	6 88	6 88	6 88
Freight from Hankow to Shanghae, at 5 lans per ton of 40 cubic feet, containing 8 chests of Baikow for 1 chest	1 62	1 62	1 62	1 62
1½ per cent. insurance from Shanghae to Tien-tsin	0 45	0 61	0 84	1 27
Freight from Shanghae to Tien-tsin, at 7 lans per ton of 50 cubic feet, containing 10 chests of Baikow tea for 1 chest	1 82	1 82	1 82	1 82
Transport from Tien-tsin to Tien-chjou, 1 lan per chest	0 23	0 23	0 23	0 23
From Tien-chjou to Kalgan	0 95	0 95	0 95	0 95
From Kalgan to Kiachta	4 60	4 60	4 60	4 60
Besides incidental expenses	0 55	0 55	0 55	0 55
Cost at Kiachta of chest of 110 lbs. of tea	38 32 to	48 63	64 95 to	93 77
Cost at Kiachta of 1 lb.	0 34⅘	0 44⅕	0 59	0 85¼
Including cost of transit from Hankow to Kiachta, commission, &c., per lb.	(11*d.*) 0 16⅓	0 16½	0 16¾	0 17 1/10

Flowery Tea from Foo-chow and Canton.

	Scented.	Medium.		Superior.
	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Case of 88 lbs. Russ	29 48	46 5 to	76 34	100 32
Commission, 4½ per cent.	1 33	2 8	3 44	4 52
Packing cases	0 90	0 90	0 90	0 90
1½ per cent. insurance from Foo-chow and Canton to Tien-tsin	0 56	0 82	1 30	1 67
Chinese duty by common European Tariff, with transit due at 6¼ c. per lb. Russ	5 50	5 50	5 50	5 50
Freight from Foo-chow and Canton to Tien-tsin at 7 lans per ton of 10 chests, per chest*	1 82	1 82	1 82	1 82
Transit from Canton to Kiachta	5 78	5 78	5 78	5 78
Loading, discharging, warehouse, &c.	0 55	0 55	0 55	0 55
Cost at Kiachta of 88 lbs. of tea	45 92	63 50 to	95 63	121 6
Ditto of 1 lb.	0 52½	0 76 1/10	1 8⅘	1 37⅘

* Freight from Foo-chow and Canton almost equal to that of Shanghae to Tien-tsin.

Teas obtained at Kiachta by barter, and brought to Moscow and Nijni-Novgorod.*

Commercial Tea.

Sansen tea in paper:—
Average weight of a case, 90 lbs.
Family ("humei") in lead:—
Average weight of a case, 87 lbs.
Expenses at Kiachta and Custom-house, 4 roubles 43 copecks per chest.
Cost in Moscow and Nijni-Novgorod, allowing 2 lbs. per case for waste:—
Of 88 lbs.—86 roubles 40 copecks to 104 roubles 95 copecks.
Per lb.—98$\frac{2}{5}$ to 1 rouble 19$\frac{1}{4}$ copecks.
Of 85 lbs.—96 roubles 66 copecks to 119 roubles 57 copecks.
Per lb.—1 rouble 13$\frac{3}{4}$ copecks to 1 rouble 40 copecks.
Inclusive of minor expenses (excepting commission) of about 20 copecks per lb.

Flowery Family Tea, in lead sheets.

Average weight of a square chest 58 lbs.
Cost in Moscow and Nijni for nearly 56 lbs.—100 rs. 72 c. to 124 rs. 81 c.
Cost of 1 lb.—1 rouble 79$\frac{6}{7}$ copecks to 2 roubles 22$\frac{6}{7}$ copecks.
Including cost of transit as above.

(Table 3.)—Expense of Transport from Kiachta to Moscow and Nijni, of Teas purchased in Tea districts.

Commercial Tea packed at Kiachta.

	In Paper. Third growth.		In Lead. First growth.	
	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Case of 110 lbs.	38 32 to	48 63	64 95 to	93 77
Expenses at Kiachta	1 60		1 60	
Transport of 151 lbs. bulk, at 5 roubles per pood	18 81 to	18 88	20 38	
Duty on 109 lbs., with an additional charge of 5 per cent. of 1861	17 12		17 12	
Commission in Moscow or Nijni, 1 per cent.	0 76 to	0 87	1 4 to	1 33
8 per cent per annum on capital	10 23	11 62	14 1	17 90
Cost in Moscow or Nijni of 108 lbs. ..	86 91 to	98 72	119 6 to	152 10
Cost of 1lb.	0 80$\frac{1}{2}$ (2*s.* 2*d.*)	0 91$\frac{2}{5}$	1 10$\frac{1}{4}$	1 40$\frac{6}{7}$
Including transit from Kiachta, and minor expenses	19 copecks.		20$\frac{1}{3}$ copecks.	
Expense of transit from Hankow to Kiachta, with Chinese duty	16$\frac{1}{3}$ „		16$\frac{3}{4}$ „	
	35$\frac{1}{3}$ copecks.		37$\frac{1}{3}$ copecks.	

* The distance from Kiachta to Moscow and Nijni-Novgorod may be performed in from eighty-five to one hundred days. From the market at Hankow to Kiachta in two to three months.

Flowery Tea, packed at Kiachta in lead.

	Scented.	Medium.	Superior.
	Rs. c.	Rs. c. Rs. c.	Rs. c.
Chest of 88 lbs.	45 92	63 50 to 95 63	121 16
Expenses in Kiachta, with commission as above	1 90	1 90	1 90
Transport of 141 lbs. weight, at 5 roubles per pood	17 63	17 63	17 63
Duty on 87 lbs. of tea, with 5 per cent. additional charge of 1861	36 54	36 54	36 54
Commission in Moscow or Nijni, 1 per cent.	1 2	1 20 to 1 52	1 78
8 per cent. capital	13 74	16 12 20 43	23 86
Cost in Moscow and Nijni of 86 lbs. of tea	116 75	136 89 to 173 65	202 77
Cost of 1 lb.	1 35¾	1 59⅛ 2 2	2 35⅝
Including cost of transit from Kiachta to Moscow, Nijni, &c.		22¾	
Expense of transport from tea districts to Kiachta, and Chinese duty	0 17⅕	0 17⅕ to 0 18	0 18½
Total		40 copecks.	41¼ c.

(Table 4.)—Transport of Teas from Tea Districts of China to Moscow by St. Petersburgh by Sea.

	Third growth.	First growth.
	Rs. c. Rs. c.	Rs. c. Rs. c.
Chest of 110 lbs. of tea	17 24 to 25 74	39 60 to 63 44
Commission, 4½ per cent.	0 78 1 16	1 79 2 86
Package of chests for sea voyage	1 25	1 25
Chinese duty, according to general European Tariff, 4 copecks per lb. Russ	4 40	4 40
Freight from Hankow to Shanghae	1 57	1 57
Freight from Shanghae to Cronstadt by sailing vessel, about 5*l.* per ton of 10 cases Baikov tea	3 53	3 53
4 per cent. insurance from Shanghae to Cronstadt, per chest	1 0 to 1 37	1 95 to 2 94
To agent at St. Petersburgh Custom-house, 1 per cent.	0 30 0 39	0 55 0 80
Unloading at St. Petersburgh; Custom-house expenses, expense of delivery	1 0	1 0
Cartage to Moscow Railway station, and warehouse there	0 10	0 10
Conveyance by rail to Moscow, per chest of 140 lbs.	1 47	1 47
Duty in St. Petersburgh, with a double 5 per cent., and 2 per cent. bridge toll	43 12	43 12
Commission at St. Petersburgh or Moscow, 1 per cent.	0 76 to 0 86	1 1 to 1 27
8 per cent. per annum on capital	9 19 10 32	12 16 15 33
Cost in Moscow of 110 lbs. of tea	85 71 to 96 28	113 50 to 143 8
Ditto 1 lb.	0 78 0 87½	1 3⅕ 1 30
Including expenses of transport, Chinese duty, and minor expenses	(2*s.* 1*d.*) 0 13 0 13½	0 14⅕ 0 14½

Flowery Tea from Foo-chow and Canton.

	Scented.	Medium.	Superior.
	Rs. c.	Rs. c. Rs. c.	Rs. c.
Case of 88 lbs. of tea	26 10	40 77 to 67 32	88 88
Commission, 4½ per cent.	1 17	1 84 3 3	4 0
Packing for sea voyage	1 25	1 25	1 25
Chinese duty	3 52	3 52	3 52
Freight from Foo-chow and Canton to Cronstadt	3 53	3 53	3 53
4 per cent. insurance from Foo-chow and Canton to Cronstadt	1 28	1 90 to 3 1	3 91
Agent at St. Petersburgh Custom-house ..	0 37	0 53 0 82	1 6
Unloading at St. Petersburgh, Custom-house expenses	1 0	1 0	1 0
Cartage to rail and warehouse	0 10	0 10	0 10
Conveyance by rail to Moscow, per chest of 121 lbs.	1 28	1 28	1 28
Duty in St. Petersburgh	64 6	64 6	64 6
Commission at St. Petersburgh or Moscow ..	1 4	1 20 to 1 49	1 73
8 per cent. on capital	12 56	14 52 18 5	20 92
Cost in Moscow of 88 lbs. of tea	117 26	135 50 to 168 46	195 24
Ditto of 1 lb.	1 33¼	1 54 1 91½	2 22
Expenses as above	0 14	0 14⅓ 0 15½	0 16⅔

Voyage from 127 to 130 days by sailing vessel, and from 87 to 100 days by steamer; freight by steamer more than double.

(Table 5.)—Cost and Expenses of Tea brought from London to Moscow.

(A.) Commercial Tea.

	Rs. c.	Rs. c.
Case of 110 lbs. of tea, weighing 140 lbs. gross, from ..	23 47 to	102 30
Brokers' and Customs commission	0 12	0 52
Packing, cases, &c.	1 0	
Insurance from London to St. Petersburgh, and stamp duty 1 per cent.	0 25	1 4
Freight from London to St. Petersburgh, at 30*s.* per ton, and 15 per cent. over and above	0 67	0 67
Commission in London, 2 per cent.	0 51	2 11
Agent at St. Petersburg Custom-house, 1 per cent.	0 26	1 8
Unloading at St. Petersburgh Custom-house, expenses in delivery of tea	1 0	
Cost per chest of carriage to railway station at St. Petersburgh, and to magazines at Moscow	0 10	
Transport by rail to Moscow	1 47	
12 per cent. duty at St. Petersburgh	43 12	
1 per cent. commission at St. Petersburgh or Moscow	0 72 to	1 55
8 per cent. on trading capital for 6 months	2 91	6 24
Price of 110 lbs. of tea in Moscow	75 60 to	162 20
Ditto of 1 lb., ditto	0 68¾	1 47⅕

Including incidental expenses in transport from London to Moscow of from 4 to 5 copecks.

(B.) Flowery Tea.

	Rs. c.		Rs. c.
Chest of 88 lbs. of tea, or 121 lbs. with tare	46 86	to	126 54
½ per cent. broker and Custom-house commission	0 24		0 64
Loading, packing, coining, &c.	1 0		
Insurance from London to St. Petersburgh, and stamp duty 1 per cent.	0 49	to	1 29
Freight from London to St. Petersburgh, at 30*s.* per ton of 20 chests, with 15 per cent. for skipper per chest	0 61		
2 per cent. commission in London	0 99	to	2 60
Agent at St. Petersburgh Custom-house, 1 per cent.	0 51		1 33
Unloading at St. Petersburgh, and Custom-house expenses	1 0		
Cost per chest of carriage to railway station, and to tea magazines at Moscow	0 10		
Transport by rail to Moscow	1 28		
12 per cent. duty at St. Petersburgh	64 6		
1 per cent. commission at St. Petersburgh or Moscow	1 18	to	2 1
8 per cent. on capital for 6 months	4 74		8 10
Price in Moscow of 88 lbs. of tea	123 6	to	210 5 6
Ditto of 1 lb., ditto	1 39¾		2 39
Minor expenses between London and Moscow	0 5		0 6

(Table 6.)—TRANSPORT of Tea by Sea to Königsberg, and thence by Vierzbolow to St. Petersburgh by railway.

(A.) Commercial Tea.

	Rs. c.		Rs. c.
Chest of 110 lbs. of tea, 140 lbs. gross	23 47	to	102 30
Broker's and Custom-house commission, ½ per cent.	0 12		0 51
Loading, packing, &c.	1 0		
Stamp duty, ½ per cent.	0 13	to	0 52
Freight from London to Königsberg, at 20*s.* per ton of 18 cases, and 15 per cent. for skipper	0 48		
2 per cent. commission in London	0 51	to	2 10
Commission, &c., at Königsberg	0 26		
Transport by rail from Königsberg to Vierzbolow, at 11 copecks per pood per chest	0 38		
Minor expenses at Eydtkühnen (the frontier), 9 copecks per pood, about	0 26		
Transport by rail, Vierzbolow to St. Petersburgh, and other expenses	3 64		
1 per cent. Custom-house agent at St. Petersburgh	0 31	to	1 12
Duty, and double 5 per cent. import (at 33 copecks per lb.)	36 30		
2 per cent. bridge toll	0 73		
Custom-house expenses	1 0		
Sundry expenses in transport	0 10		
Transport by rail to Moscow	1 47		
1 per cent. commission at St. Petersburgh	0 71	to	1 53
8 per cent. on capital for 6 months	2 84		6 15
Price at Moscow of 110 lbs. of tea	73 71	to	159 85
Ditto of 1 lb.	0 67		1 45⅛
Including expenses between London and Moscow	0 8		0 8¼

(B.) Flowery Tea.

	Rs. c.		Rs. c.
Chest of 88 lbs., weighing 121 lbs. gross	46 86	to	126 54
Broker's and Custom-house commission, ½ per cent.	0 24		0 64
Loading, packing, &c.	1 0		
Insurance and stamp duty, about ½ per cent.	0 24	to	0 64
Freight from London to Königsberg, at 20*s.* per ton of 20 chests, and 15 per cent. for skipper	0 43		
Commission in London, 2 per cent.	0 94	to	2 59
Ditto in Königsberg, &c.	0 26		
Transport by rail from Königsberg to Vierzbolow, at 11 copecks per pood per chest	0 33		
Minor expenses at Eydtkühnen, at 9 copecks per pood ..	0 20		
Transport by rail from Vierzbolow to St. Petersburgh, &c. ..	3 14		
Agent at St. Petersburgh Custom-house, 1 per cent.	0 54	to	1 36
Duty with 5 per cent. double import (at 66 copecks per lb.) ..	58 8		
2 per cent. bridge toll	1 16		
Custom-house expenses	1 0		
Minor expenses in transit	0 10		
Transport by rail to Moscow	1 28		
Commission at St. Petersburgh or Moscow, 1 per cent. ..	1 16	to	1 99
8 per cent. on capital for 6 months	4 68		8 3
Cost in Moscow of 88 lbs. flower tea	121 64	to	208 77
Ditto 1 lb. ditto	1 38¼		2 37¼
Incidental expenses between London and Moscow	0 9		0 9½

(Table 7.)—Comparative Cost of Teas, with Transport to Moscow.

	c.	Cost per lb. Rs. c.		Rs. c.	Rs. c.
From Maimatchin (at 32*d.* per rouble) . ..	98 (2*s.* 8*d.*)	1 41	..	1 80	to 2 23
From tea districts of China—					
(*a.*) By Kiachta	81 (2*s.* 2*d.*)	1 41	..	1 36	2 36
(*b.*) By sea through St. Petersburgh . ..	78 (2*s.* 1*d.*)	1 30	..	1 33	2 22
From London—					
(*a.*) By sea to St. Petersburgh	69 (1*s.* 10*d.*)	1 48	..	1 40	2 39
(*b.*) To Königsberg by sea, and thence by Vierzbolow to St. Petersburgh by railway ..	67 (1*s.* 9½*d.*)	1 45	..	1 38	2 37
From Hamburgh—					
By Königsberg, &c., as above, to St. Petersburgh	59 (1*s.* 6¾*d.*)	1 38	..	1 30	2 29

From the foregoing Tables it appears that 1 lb. of the cheapest description of tea of the third growth, as referred to in Tables Nos. 1, 2, 3, and 4 of this series, costs in the tea districts of China 5*d.*; by the time it reaches Kiachta 11*d.*; and on reaching Moscow, 2*s.* 2*d.* One pound of the same description of tea conveyed from London by sea to St. Petersburgh and thence by rail to Moscow, costs 1*s.* 10*d.*; and when conveyed by sea to Königsberg and thence by rail to Moscow 1*s.* 9½*d.*; while tea from Ham-

burgh can be conveyed to St. Petersburgh and Moscow for 1*s.* 6¾*d.*

It is therefore evident that although the Kiachta trade may still be able to meet with profit the demand for tea in Siberia and the northern provinces of Russia, it cannot compete with the European trade, by which the southern and western provinces of Russia are now supplied.

The foregoing Tables were drawn up in 1864 before the assimilation of the duties by land and sea and before the reductions above-mentioned of 1865, by which Canton teas imported by land or by sea pay 50 copecks (1*s.* 4*d.*, at the rate of 32*d.* to the silver rouble) per lb. for the superior black and coloured teas, and 35 copecks (11*d.*) per lb. for inferior black teas. I have not ventured to make any alterations in the calculations they contain: a deduction must, however, be made in the case of the transport of tea from London by sea to St. Petersburgh of 15 copecks (5*d.*) for superior teas; reducing the price by sea from 1*s.* 10*d.* to 1*s.* 8½*d.*, and by Königsberg from 1*s.* 9½*d.* to 1*s.* 8*d.* for inferior teas; for the same reason the price of the Hamburgh tea would be reduced to 1*s.* 5¼*d.* per lb.

The unsatisfactory nature of the Russian export trade to China has already been exemplified, but no less striking is the proof given by Mr. Tegoborski, of the loss entailed on the consumers of tea in Russia by its importation through Kiachta.

Taking 1851 as an average favourable year "the importation of tea," he says, "during that year amounted to 206,365 poods of ordinary black tea, 15,485 poods of flowery tea, &c., and 468 poods of green tea."

The retail price of these teas, exclusive of the duty, amounted, at the most moderate calculation, for ordinary black tea, to 1 rouble 50 copecks (4*s.*) per lb.; and for flower tea, 2 roubles 50 copecks (6*s.* 8*d.*) per lb.; the consumers therefore paid for 8,254,600 lbs. Russian of black tea, at 1 rouble 50 copecks per lb., 12,381,900 roubles; and for 1,837,880 lbs. of flowery and green tea, 4,594,700 roubles. Total, 16,976,600 roubles, exclusive of the import duty.

According to the price current at Hamburgh for that year, the price paid for various kinds of tea was from 7 to 28 schellings banco per lb. (19 to 76½ copecks the Russian lb.), only the finest kind of Pekoe reaching the price of 80 schellings banco (2 roubles 18 copecks the Russian lb.).

Taking therefore an average of all these prices, it may be estimated that the qualities of Canton tea, corresponding to those of the ordinary descriptions of Caravan tea, carriage and all expenses included (but leaving out of the calculation as above the import duty), would not cost more than from 45 to 50 copecks per lb. at the utmost, while the superior qualities of tea, answering to the Caravan flowery tea, would not cost more than from 75 to 80 copecks.

But putting the price of the ordinary tea even at 60 copecks, and that of the superior description at 90 copecks, according to this calculation 8,254,600 lbs. Russian of ordinary tea would only cost 4,952,760 roubles; and 1,837,880 lbs. of fine tea only 1,654,000 roubles; or together 6,606,850 roubles instead of 16,976,000 roubles.

That is to say the consumers of tea in Russia pay no less than 10,000,000 of silver roubles annually for the benefit of the Kiachta trade.

2. *The Tea Trade viâ Chinese Turkestan, and the Orenburg and Siberian Frontiers.*

The tea trade which is carried on between Russia, the western provinces of China, and Eastern or Chinese Turkestan, by the Orenburg and Siberian frontiers, is of less importance from its actual extent than from its future prospects; now that Tashkend, the great commercial emporium of Central Asia, has become a Russian city and the capital of the Russian province of Western Turkestan.

The observations and calculations contained in this portion of my Report will, I trust, be of interest to the cultivators of tea in the Himalayas, to whom an extensive market now appears to be open; the inhabitants of Central Asia being entirely deprived of their supplies of tea from the interruption of all commercial intercourse with China, owing to the insurrection in Dzungaria, which seems to have spread through the western provinces of China to Eastern Turkestan.

In a former Commercial Report, published in the Blue Book of 1862, I gave such a detailed account of the trade of Russia with Central Asia, and of the caravan routes from the Orenburg frontier and from Petropavlovsk to that country, that it would be unnecessary for me now to do

more than describe the route by which the tea trade is carried on between the Siberian frontier and the western provinces of China, were it not that the progress Russia has made within the last two years in Central Asia has rendered it necessary to take into consideration a fresh route, which promises soon to become the great commercial highway between Russia and India, the Syr Daria; and to show as well as the restricted information in my power will permit, how far and by what means that river may become available for the purposes of trade.

The important part which Tashkend is evidently destined to play in the commerce of Central Asia, and the enterprizing character of its inhabitants, by whom the caravan trade in those regions is chiefly conducted, has induced me also to enter at some length into the condition of the trade of that city.

In considering the advantages which may accrue to British interests in India by the opening of an extensive market for the teas of the Himalaya, I have been led to examine the routes from the tea-growing districts of the Punjaub, through Cashmere, into Central Asia; concerning which I have found very precise information in Mr. Davies' valuable Report on the trade and resources of the countries on the north-western boundary of British India.

The principal places connected with the caravan tea trade by the Siberian frontier to which I shall have occasion to refer are, Semipolatinsk, Chuguchak, Kuldja, Aksu, Fort Fernoje or Almaty, Kashgar, and Yarkand; for information concerning which I have referred to the statements of Russian travellers who have visited those spots and whose reports are published in Erman's "Archiv für Wissenschaftliche Kunde von Russland." I am also indebted to Mr. Robert Michell, of the War Office, for the communication of translations made by him of articles respecting the towns of Semipolatinsk and Chuguchak, as well as of a Memorandum on the subject of the trade of the Caspian, extracts from which I have embodied in this Report.

The trade between Russian and Chinese subjects in the towns of western China, Chuguchak, and Kuldja, was established by a Treaty concluded with the Chinese Government on the $\frac{21\text{st July}}{10\text{th August}}$, 1851.

This Treaty prohibited the exportation, into the Chinese Western Provinces, from Russia, of gold and

silver in bars, dust, or in the form of foreign coins, as well as of Russian gold and silver specie.

All exports from Russia and all imports from China, exclusive of teas, were (by way of experiment and in order to foster the trade) exempt from duties for a period of five years.

The duties on tea were to be the same as those fixed at Kiachta and to vary with the changes that might at any time be introduced into the Tariff of Kiachta.

All packages of tea brought to the Siberian and Orenburg lines by Tashkendians and other Asiatics, not Russian subjects, were to be charged 20 per cent. over and above the rates levied at Kiachta; but these were doubled when it was discovered that the Asiatics obtained the tea from the Chinese for money instead of in exchange for merchandize, a proceeding which was considered injurious to the interests of the Russian merchants.

Before the lapse of the term of five years (in August 1855), the Russian factory at Chuguchak was pillaged and burned down; commercial relations, therefore, were continued only at one point, that is at Kuldja, pending the satisfaction that was demanded of the Chinese Government.

In the month of August 1858, the Russian Agent at Chuguchak came to an understanding with the principal authorities at that place, by which the Chinese bound themselves to recompense the Russian merchants for the losses they had sustained through the destruction of the factory; the indemnity being fixed at 5,500 chests of tea during a course of three years. The trade with Chuguchak was then re-established on the former footing. Finally, by an Imperial Ukase of the $\frac{30\text{th March}}{11\text{th April}}$, 1861, the regulations concerning the trade with China, through Kiachta, and the duties on Kiachta teas were made to apply not only to the trade with the towns of Kuldja and Chuguchak but likewise to the trade with Kashgar.

Semipolatinsk, which has now become the most important place in the Steppe region for the caravan trade, is built on the River Irtysch, where it emerges into the Steppe. It consists of a fort containing a guard-house and barracks, and the town proper, which is a quarter of a verst from the fort; a large straggling collection of ugly wooden houses surrounded on all sides by undulating sandhills.

The population consists of Russians, Tartars, Tashkendians, Germans, Jews, and a number of Kirghese, who are encamped on the north side of the town. The streets are mere tracks of deep sand; along the Irtysch are a few gardens in which melons and water-melons are cultivated; twenty-five versts beyond the sandhills are the pastures where the Kirghese raise their cattle and horses. Very little land is cultivated in the neighbourhood of the town, but in the eastern division of the province more than enough corn is grown for local requirements.

The only manufactures that exist in the province are a few tanneries for leather and hides. The river navigation is used solely for the transport of salt and lime to Omask, and for timber rafts which are floated down the Irtysch. The town and province of Semipolatinsk derive their chief profit from the caravan trade with Central Asia, which is extended even to Cashmere by means of the Kirghese who, without paying any dues, enjoy the privileges of Russian merchants of the first and second guilds. The frontier Custom-house at Semipolatinsk was first established in 1754. The principal trade is carried on in the winter when the Cossacks and peasants come in from the neighbouring stations and villages. As soon as the Irtysch is frozen over, Kirghese from the Kargentinsk Steppe districts bring to Semipolatinsk, on their camels, sheep and lambskins, camel-hair ropes, and other commodities which they barter for grain, flour, tobacco, iron ware, and wooden boxes.

The foreign trade of Semipolatinsk is carried on by Tartars and Tashkendians with the Kirghese Steppe, Tashkend, Western Turkestan, and the Towns of Western China, Kuldja, and Chuguchak.

The articles exported to those places are black and red leather manufactured in Semipolatinsk, cottons and woollens of bright colours, velvets, gold lace, tinsel, watches, looking-glasses, iron cast and wrought, manufactured and otherwise, and copper in sheet and pigs. Thin felts, sheepskins, and cattle are brought in exchange from the Kirghese Steppe. Cotton coverlets and stuffs, silk robes (Khalats), woollen carpets, fruit, cotton raw and in twist, are purchased at Tashkend, while, from Kuldja and Chuguchak, they bring furs, porcelain, silver in bars, and silk.

These articles are partly disposed of at Semipolatinsk,

but the greater proportion of them are sent to the Tiumen and Irbit fairs, to Kazan and Moscow. Goods obtained by the Kirghese from Chinese traders are also brought to Semipolatinsk, but the merchandize bartered in exchange passes under the name of Kirghese goods, Russian merchandize being only legally admitted into China by the Kiachta route. The transport of goods from Semipolatinsk to Kuldja costs about 4 roubles silver (10*s.* 8*d.*) per camel load (between 480 and 500 lbs.), the journey there and back occupying three months; the same price is paid for each camel load to Tashkend and Kokand, the journey occupying the same time.

From Semipolatinsk to Kashgar a camel load costs 7 silver roubles (18*s.* 8*d.*), the journey there and back taking six months. The distance from Kazan on the Volga to Semipolatinsk is 1,800 miles, the cost of transport from 16*s.* 9*d.* to 18*s.* 8*d.* per cwt.

The chief caravan routes from Semipolatinsk are—

1. To Chuguchak, through the Ayaguz and Kohpetinsk districts to the southern slopes of the Tarbagatai ridge;

2. To Kuldja and Kashgar;

3. To Kokand, past Ayaguz, Kaskaras, Aktau, across the Tchu and through Tashkend.

The Russian settlement on the River Urdjar is 87 miles from Ayaguz, while the distance from Urdjar to Chuguchak is 67 miles. Chuguchak is 153½ miles distant from Ayaguz, and Kuldja is 133½ miles from Kopal.

The value of the goods imported and exported through the Semipolatinsk Custom-house, may be estimated by the following statement of the dues levied on that trade, deducting 4 per cent. as the cost of collection:—

In 1855, 68,325*l.*; in 1856, 9,265*l.*; in 1857, 9,697*l.*; and in 1858, 8,478*l.*

The trade with Chuguchak and Kuldja, which was formerly interdicted to Russians, was carried on by Tashkendians, or by Russians disguised as Asiatics. Russian caravans first proceeded to Kokand and the western frontier towns of China in 1808, when General Glasenap commanded the Siberian division of the army, but they gradually extended their journies to Bokhara, Kashgar, and Cashmere. The trade at first was purely one of barter, Russia exporting various manufactured goods, hardware, and leather; while China yielded chiefly tea in leaf and

bricks, silks, porcelain and furs. The subsequent appearance of gold in the bazaars had an injurious effect on the exchange of Russian goods, the Chinese, who willingly disposed of their wares for gold, allowing even a considerable discount on them for specie. The gold consisted at first of Russian coins, but when the Chinese showed a preference for the unalloyed metals, gold in dust and bars formed the medium of exchange.

The Chinese demand for gold induced Russian merchants to enter into a profitable trade for supplying the bazaars with this commodity. Some Russian traders bought up the gold in a legal way at Nijni-Novgorod fair at Moscow and at St. Petersburgh, in order to exchange it for Chinese goods, while others obtained it from gold diggings in the Kirghese Steppe, in the neighbourhood of Chuguchak and Ayaguz. Such was the condition of Russian trade with Western China when Count Nesselrode, then Minister for Foreign Affairs, proposed to establish Russian factories and consulates within the Chinese territory; the result of the negotiations that ensued being the conclusion of the Treaty of 1851, between the Russian and Chinese Governments, by virtue of which trade was sanctioned between merchants of both countries at Chuguchak and Kuldja.

The presence of the Russian Consuls at the new factories put a stop to the open trade in gold, its contraband sale, however, could not be prevented. This illicit traffic, which was chiefly carried on by the Tashkendians, who were not under the control of the Russian Custom-houses and Consuls, very soon produced on this frontier the same result as that which the prohibition of the exportation of precious metals had brought about on the Northern Mongolian frontier at Kiachta. Chinese goods were obtained considerably cheaper by the merchants who paid for them in gold, to the detriment of those who traded in the prescribed way, bartering goods for goods. To remedy this it was found necessary—

1. To establish a stricter watch over the gold diggings in the Steppe, and particularly over the Chalo-Kazaks, or runaways of the Ayaguz districts, who were the most active agents in the secret gold trade, and who supplied the Russian merchants with this gold for purchasing Chinese goods.

2. To levy a high rate of duty on all teas imported

into Russia from China by foreign Asiatics, in order to stop the secret payments of gold to the Chinese; and

3. To invest the Russian Consuls with the power of recommending to the Russian frontier authorities the refusal of passports to individuals suspected of illicit trade in gold.

In 1854 the export of tea from Chuguchak by the Tashkendians was so great that a total stagnation in the barter of Russian goods ensued, and, notwithstanding the variety and quantity of Russian goods on hand there, at the end of 1853 the Russian merchants could obtain scarcely anything in exchange during the first 2½ months of 1854.

The commercial transactions of the Tashkendians consisted, as already stated, in purchasing tea for gold of Russian coinage. When buying tea in this manner, the Tashkendians estimated 25 half imperials at one yamb, or 4½ lbs. of silver (the half imperial is worth about 17*s.*). The price paid by them for a box of tea, containing say 60 lbs. of superior quality, was 20 lans of silver, or 6*l.* 10*s.*, at about 2*s.* 2*d.* per lb.

The price of a chest of tea of the same size and quality at Semipolatinsk is about 19*l.* 10*s.*, including a duty of 1*s.* 6*d.* per lb., according to the Tariff in force till 1861, or about 6*s.* 6*d.* per lb.; deducting the duty, this would leave the Tashkendians a profit of 2*s.* 10*d.*, or about 130 per cent. on the cost price of the tea at Chuguchak. The quantity of tea thus exported from Chuguchak during the course of one month may be estimated at about 1,000 to 1,500 chests, or, taking the average contents of the chests of different kinds of tea at 80 lbs., 80,000 to 120,000 lbs. per month, and 960,000 to 1,440,000 lbs. per annum.

The profits of the Tashkendians in their dealings with the Kirghese tribes, through which the caravans pass, are, however, still greater. Thus, for instance, a yard of red cloth, worth 3*s.*, is exchanged for 3 sheep, a hide of "yuft" leather for 7 and 8 sheep, while cast iron and hardware are sold at still higher prices.

Chuguchak is situated at the extremity of the western frontier of China, near the source of the River Emil, which has a length of 63 versts to the lake Ala-kul. This town was called Tarbagatai by the Chinese when occupied by them in 1755, after the conquest of Dzungaria.

The site on which the present frontier town stands was

formerly called Gar, and was, in the middle of the seventh century, the place of residence of Amur Sana, the last of the Khans of Dzungaria. It is inclosed within an earth wall, and was made the residence of two boundary inspectors ("ambans"), who, with their staff, are relieved every three years from Peking. One "urkedi," or general of the Eliut troops, has his head-quarters here, as well as a "lean-shan," or quartermaster-general, sent here from the province of Han-su. Besides the two chief ambans and three superior civil officers, this frontier town has 1 commander, 7 officers, 1,000 Chinese soldiers, and 1,500 Mandchoo and Mongol men-at-arms. The latter are generally relieved annually, but the former remain in garrison with their families, and are obliged to support themselves by cultivating the soil. Latterly Chuguchak has become a Chinese market of considerable importance, and its commercial relations with Russia rendered it, after Kuldja, the chief town of Western China. Exclusive of the barracks, however, the town contains only 600 houses; the merchants who come there are merely temporary residents, the only permanent inhabitants being criminals, who are transported hither from the interior of China, and who are compelled to labour in the fields. Trade is carried on by the aborigines, the Eliuts, and by Torgats and Kalmucks from the Volga Steppes, who are connected with them. They are all nomads under military rule, and are not trusted by the Chinese, for which reason 1,500 soldiers are annually sent to Chuguchak from Kuldja. The commercial relations of Chuguchak with the towns of the interior of Dzungaria are very active and extensive, especially with Holdo and Urumtsi. The distance to the last-named of these towns is about 12 days' journey on oxen, in a south-easterly direction; while Holdo, which lies much further to the south-east, is reckoned a 20 days' journey.

Chuguchak has no produce or merchandize of its own like that which forms such a valuable item in the barter trade of Kashgar and Yarkand. The distance from Chuguchak to Kuldja, according to itineraries, is about 365 versts, which may be traversed in 13 days.

A direct trade in tea has been established between Troitsk, on the Orenburg frontier, and Chuguchak. The opening of this trade, which is carried across the Kirghese Steppe, is due to the enterprize of the Tartars of Troitsk. Formerly teas were exported from Russia into Central

Asia, but in 1844 the first attempt at this direct trade was made, the caravan consisting of 70 camels, each carrying 560 lbs., of 15 horses and 12 men. The undertaking was completely successful, and since that time the Company engaged in the trade have greatly increased their purchases of tea. The facility of travelling on this line, and the cheapness of the transport, 10 roubles (or 26*s.* 8*d.*) per camel-load from Troitsk to Chuguchak and back, a distance of 1,280 versts, encouraged the Tartars to continue this trade with Chuguchak, which might have become a second Kiachta had it not been for the interruption that took place in the commercial relations of the two Empires, consequent on the destruction of the Russian factory.

Kuldja.—In 1854 the frontier of Russia was advanced southwards about 100 versts beyond the River Ili to Fort Vernoye, in the Trans-Ili territory, which now serves as a refuge to the great horde of the Kirghese against the predatory attacks of their neighbours the Black or Stone Kirghese. This extension of Russian territory towards the South has facilitated communications with the town of Kuldja, where Russia, by virtue of the above-mentioned Treaty of 1851, possesses a Consulate and a factory.

A subaltern officer of Cossacks, who visited Kuldja in 1859, gives the following account of that place :—

The road to Kuldja, he says, runs along the chain of the Dzungarian Alatau, branching off, at the Picket Koksu, from the road which leads from Kopal to Fort Vernoje. It passes at first through level vallies in a south-easterly direction, but gradually increasing its inclination to the east, it begins to ascend, and about 35 versts from Koksu crosses the Pass of Jagan-Tas, the watershed for the rivers which flow on one side into the Ili and on the other into the Kutal. Beyond this pass the road runs up a long valley shut in by hills on both sides, one of which, called Mus-Murun, is looked upon by the Kirghese as the boundary between Russia and China, those who camp beyond it paying tribute to the Emperor of China.

About 10 versts from Mus-Murun begins the Glen of Karasai, down which a steep and rugged path winds for 5 versts. Five versts beyond this glen the first Chinese picket is passed. It is a small stone building, surrounded by a mud wall 42 feet high, above which are seen the tops of the poplars which shade the karoul or guardhouse.

The Valley of Borschudjir, which is well watered by

the numerous tributaries of the river of that name, presents, with its grassy banks, covered with clematis and dog-rose, a pleasing and most welcome change to the arid passes by which it is approached. The picket consists of 15 men, Mongols of the Solon tribe, commanded by a Mandchoo officer. The soldiers find their own clothing and horses, but their arms, which consist of bows and arrows, are provided by the Chinese Government.

The distance from Koksu to Borschudjir is 80 versts, from thence to Kuldja 125 versts. About 15 versts from Borschudjir is a second Chinese picket on the River Usuk; it consists of only six men and a subaltern.

The passage of the River Usuk is very difficult, from its great rapidity and whirlpools, which render it almost impossible for camels to proceed. The banks are thickly wooded, and afford good pasture for cattle.

After crossing the Usuk the road consists of a series of steep ascents and descents till the sandy valleys are reached leading to Korgos, the halting-place, on the second day.

The approach to Korgos is like a beautiful garden, the town being surrounded by poplars and other larger trees, through which are seen a number of light and richly-ornamented towers in the Chinese style. The gardens in the suburbs are filled with fruit-trees (pears, apples, apricots, peaches, grapes, and oranges), the trees actually bending under their weight, and on either side of the road is a watercourse, serving for purposes of irrigation and for the supply of the town.

Provisions are remarkably cheap at Korgos: an egg or an excellent pear cost $\frac{2}{15}$ of a copeck (about the same fraction of $\frac{1}{4}d.$); a loaf of white bread, 3 lbs. in weight, costs 4 copecks (about 1*d.*); meat, fowls, brandy, &c., are all equally cheap. The filth of the town, and the stench arising from the number of carcases of animals of every description lying unburied in the town and suburbs, is insupportable for strangers, and the Cossacks who were sent in for provisions could not stay there, but passed the night in a "yurt," or tent, a couple of versts from the town.

Korgos is remarkable for venomous snakes and insects. Of the latter, the phalangi and the black tarantula spider are the most dangerous; their bite is not unfrequently fatal. The only remedy is immediate cupping; and, even when the patient recovers, he feels the effect of the bite, it

is said, for years: scarcely a year passes, indeed, without a death from the bite of these fearful insects.

The first picket beyond Korgos is 45 versts from the town. The halting-place for the night is 10 versts further, at the River Tchischchan; from thence one more picket and the small village of Tchifanse are passed before reaching Kuldja.

The Russian factory is separated from the town of Kuldja by a deep gully. It stands on the very steep right bank of the Ili, and is surrounded on three sides by a stone wall. The Consulate, warehouses, and lodgings for merchants stood formerly close to the edge of the river, but in 1857, the river having changed its course, the bank fell in, and with it the Consulate, gardens, warehouses, &c., the only portion of the buildings saved being a small barrack for the Cossacks, in which the Consul and his Secretary were then living. As the river threatened further inroads, the new factory has been built 700 fathoms further from the bank.

Besides the Consul-General, his Secretary, and their servants, 15 Cossacks are stationed here, detached from the Siberian frontier-line. Their duty is to guard the factory, and to keep open the postal communications between Kopal and Kuldja. The Consul despatches the Post once every two or three weeks, according to circumstances, when it is escorted by a corporal and three Cossacks, —in the summer, across the Jagan-Tas, and in the winter, along the Ili to the station Altyn-Imel.

Very few native born Russians are engaged in trade with Kuldja; they seem, indeed, to have little or no idea of the existence of the commerce with China, and leave it entirely in the hands of the Tartars of Semipolatinsk, Troitsk, and Petropavlovsk, and the Kirghese of the Middle Horde.

These traders who are very numerous are, however, legitimatized as Russian subjects, and as such enjoy the protection of the Consul. They bring to Kuldja leather, cloths, boxes, hardware, steel, looking-glasses, and other trifles, which they exchange for common tea, silk stuffs, glass and stoneware, apples, wine, raisins, apricots, rice, skins, furs, and hides.

The geographical position of Kuldja, as the centre of the trade of Russia with China, Thibet, and Eastern Turkestan, as well as the numerous roads leading to it from

every quarter, render it a place of great political as well as commercial importance. It is the capital of the Chinese frontier province of Ili, which includes Dzungaria.

Kuldja (in the Mandchoo tongue, Mountain Goat), is also called Ili (brilliant), after the river on which it is built. It lies between the spurs of the Thian Schan Iren-Chabirgan, and Njan-Schan Mountains; it is 5,400 versts from Pekin, 1,000 from Semipolatinsk, and about 5,000 from St. Petersburgh.

The military Governor of the town is at the same time Governor-General of the Province of Ili, and chief of all the military authorities in Chinese Turkestan.

The city consists of two parts, the first, or citadel, the residence of the Mandchoos; the second, inhabited by a mixed population of Chinese, Tungani and Turkestani, which is built round the citadel. No Russian is allowed to penetrate within the fortress, which is enclosed by a square stone wall, each face being 450 fathoms long and 3 fathoms high, supported at distances of 50 fathoms by buttresses. In the centre of each wall is a loopholed gate; the whole is surrounded by a wide and deep ditch, along the edge of which are built the huts of the poorer Chinese.

The Governor-General, the other authorities, and the Mandchoo troops, the latter 6,000 strong, are lodged in the citadel. The suburbs which surround it are inhabited by Chinese, Soloni, Mongols of the tribes of Eliut, Djachar, and Sebo, and Turkestani. Of these there are about 18,000, forming a kind of military colony, who not only perform garrison duty, but are employed in raising crops on the land set apart for the support of the troops.

The civilians consist of Chinese, Tungani, Bokharians, and Tashkendians; the Tungani are a Mahometan race, who, while retaining their own faith, have adopted the customs and language of the Chinese; in all probability they are the descendants of some of Tamerlane's troops, who, in the year 1400, marched from Tashkend to Lake Borotal. Many of the Tungani still speak the Tartar language.

Including the Mandchoos, Kuldja contains 80,000 inhabitants, and among them a few Roman Catholics, emigrants from the interior provinces of China, who, however, are compelled to celebrate their religious service in secret.

The city, notwithstanding its commercial importance, and in spite of its being the residence of the chief authori-

ties of the province, is badly built and filthy dirty. The houses are all within courts, the bazaars alone being open to the street.

The trade of Kuldja is almost entirely in the hands of the Chinese and Tungani; the latter of whom keep the caravanserais, which are filled with traders from the interior of China, Bokhara, Cashmere, and even from India; the principal imports from the three last countries being a kind of cloth made from hemp, called "boi," silk, and cotton stuffs, and a cloth made from nettles.

The following Tables show the amount of exportation of Russian goods manufacturers, &c., to China through Kuldja and Chuguchak for thirteen years from 1851 to 1863 inclusive; the importation of tea from Kuldja and Chuguchak during the same period, and the value of tea in those markets when bartered respectively for money or for merchandize.

EXPORTATION of Russian Goods and Precious Metals through Kuldja and Chuguchak.

Years.	Ordinary Cloth.	Ladies' Clo	Plush and Velveteens.	Nankeen.	Youfts, dressed, Leather.	Kid and Morocco Leather.	Other Skins.	Total value of goods according to prices declared at Custom-house.*	Gold and Silver ware, Ingots and Coin, Russian and Foreign.	Total value of Goods and of Precious Metals.
	Arsh.	Arsh.	Arsh.	Arsh.		Pieces.	Pieces.	Roubles.	Roubles.	Roubles.
1851 ...	31,626	625	48,416	611,712	12,135	...	153	261,951	70,795	332,746
1852 ...	16,740	...	36,087	619,448	4,860	39	...	175,240	130,649	305,889
1853 ...	90,078	1,288	169,953	1,482,476	14,280	5,053	1,068	673,160	2,929	676,089
1854 ...	103,236	3,347	206,721	1,483,120	10,096	2,212	4,209	639,505	12,642	652,147
1855 ...	2,696	...	8,575	609,699	12	1,987	...	98,094	10,584	108,678
1856 ...	1,119	...	5,371	323,787	1,452	...	20	53,813	2,990	57,803
1857 ...	4,929	...	9,405	177,075	2,609	187	328	85,449	20,531	109,980
1858 ...	8,657	...	10,855	54,371	772	435	61	51,380	17	51,397
1859 ...	5,994	...	37,358	245,416	769	7	42	145,565	80	145,645
1860 ...	2,306	...	28,091	240,803	439	53	181	114,537	3,188	117,725
1861 ...	18,175	...	76,913	566,772	2,933	22	405	210,067	3,296	213,363
1862 ...	3,880	...	11,902	484,073	854	52	828	115,210	28,571	143,787
1863 ...	5,900	...	7,132	172,323	735	137	868	94,041	72,706	166,747

* Woollen, cotton, flaxen and hemp goods, metal wares (excepting those of precious metals), prepared skins, soft wares, various products and articles of manufacture, cattle, and necessaries of life.

IMPORTATION of Tea from Western China through Kuldja and Chuguchak, and the Custom-houses of the Siberian and Orenburg Districts.

Years.	Baikof Tea.		Brick Tea.
	Flowery.	Commercial.	
	Poods.	Poods.	Poods.
1851 ..	..	12,362	8,394
1852 ..	..	11,420	7,346
1853 ..	..	16,184	4,893
1854 ..	..	36,653	7,942
1855 ..	..	7,053	3,841
1856 ..	..	997	2,242
1857 ..	..	1,539	623
1858 ..	..	5,364	937
1859 ..	..	2,989	2,353
1860 ..	..	6,265	1,129
1861 ..	15	9,636	2,779
1862 ..	69	12,983	3,229
1863 ..	61	10,871	1,776

Cost of Tea in Kuldja and Chuguchak.

COMMERCIAL TEA, approaching in quality to the San-sin Tea brought to Kiachta, was valued at 1 rouble per lb. in barter for merchandize at Chuguchak in 1854.

Years.	Qualities.	Value of 1 lb.		
		At Kuldja.	At Chuguchak.	
			In exchange for Precious Metals.	In exchange for Merchandize.
		Copecks.	Rs. c. Rs. c.	Rs. c. Rs. c.
1861 ..	Baikow commercial tea..	75	Unknown ..	Unknown ..
	Brick tea	36	Unknown ..	Unknown ..
1862 ..	Baikow commercial tea..	69	0 58 to 0 81	0 64 to 0 88
	Brick tea	26	0 30	0 44
1863 ..	Baikow commercial tea..	Unknown ..	0 58 to 0 77	0 69 to 1 4
	Brick tea	Ditto ..	0 58 to 0 77	0 41 to 0 52

From the foregoing Tables it will be seen that the trade between Russia and the Western Provinces of China is in a state of decline; this is owing in the first place to the increase in the duty on tea imported into Russia without Consular certificates (*i. e.*, by foreign traders); to avoid this the tea is principally dispatched to the Kirghese Steppe, and, as the exorbitant duty imposed on it encourages smuggling, great quantities penetrate secretly into

Russia. Secondly, owing to the non-observance of the law prohibiting the exportation of the precious metals, arising from its licensed circulation in the Kirghese Steppe, and the absence of guards on the Chinese frontier, the greater proportion of the trade was carried on clandestinely by means of gold instead of by barter; and, Thirdly, since the re-establishment of commercial intercourse with China in 1858, Russian trade has not been properly developed owing to a deficiency of the class of goods demanded by the Chinese, and to the trade carried on in Russian goods by other Asiatics, who likewise supply the Chinese with gold and silver through Tashkend and the Kirghese Steppe. The removal of the prohibition to export precious metals and the permission to purchase teas for part payments in ready money, which took effect at Kiachta in 1861, has been extended to the trade on the Siberian frontier, and might have produced a favourable effect upon it, but for the insurrection in Dzungaria, which appears to have affected the trade of the Western Provinces of China with Russia as well as to have interrupted the commercial relations of China with Central Asia.

Almaty or *Fort Vernoé* is likely to be shortly a place of no small importance in Central Asia owing to its geographical position midway between Kuldja and Kokan, and on the road from Kashgar to Semipolatinsk. Trading caravans which so late as 1856 usually passed by without stopping, now always halt here for traffic; large purchases of cattle are also made each year in the vicinity for Kuldja, Tashkend, and Petropavlovsk, which latter place is upwards of 800 miles from Vernoé. Fort Vernoé is one of the most important outposts on the south-eastern frontier of Russia, it is built on a plateau 2,500 feet above the level of the sea between Lakes Balkash and Issykkul, but much nearer the latter, to the south of the River Ili, in the district now called Trans-Ili. The valley round this fortress is transformed into a natural garden by the fertilizing waters of the rapid Almatinka, and building timber is found in abundance on the slopes of the nearest mountain range. The population of this flourishing little colony, which consists of Cossacks and peasants, is about 6,000. The Trans-Ili Alatau, which rises like a gigantic wall in front of Fort Vernoé, forms the northern shore of Lake Issykkul, this great mountain range from the western to the eastern extremity of the lake is covered

with perennial snow, its three centre peaks being little less than the height of Mont Blanc. The passes over this range, which are from 8,000 to 10,000 feet high, are utterly impracticable for troops, and so difficult of access that, although the distance from Fort Vernoé across them to Lake Issykkul is only 90 versts, M. Semenoff, the celebrated Russian geographer, who visited it in 1857, was obliged to travel 300 versts to the eastern extremity of the lake. On his way from thence to the Thian-Shan ranges, M. Semenoff crossed a marshy plateau, 5,500 feet above the sea level, called the Santasch, where he found a curious mound of stones, which, according to a tradition of the Mountain Kirghese, was raised by the soldiers of Tamerlane. On his march from Samarcand to the valley of the Ili, that Tartar Khan, wishing to count his numerous host, ordered each man to throw a stone on this spot: returning from his expedition he again crossed the Santasch, and desiring to know the number of troops he had lost, he ordered his men as they passed to take each a stone from the mound, which, thus reduced to its present size, gave the number of warriors that had fallen in the campaign, and formed at the same time their monument.

Parallel with the Trans-Ili Alatau, but exceeding it in height, is the chain of the Thian-Shan Mountains, these two gigantic ranges inclosing the basin of the Issykkul. The lake itself, which is 4,476 feet above the sea level, being 180 versts long, and from 50 to 60 versts broad. The source of the Naryn, the principal tributary of the Syr Daria, which was visited by M. Semenoff, is 10,200 feet above the level of the sea, in latitude 41° 45′ north, a point which he considers to be nearly the centre of Asia. The scenery of Lake Issykkul and the Pass of the Sanku, by which he reached the Thian-Shan, or Celestial Mountains, must be, to judge from M. Semenoff's description, of surpassing grandeur.

The first care of the Russian Government on acquiring any fresh territory, is to establish safe postal communications with it from some convenient place in connection with the nearest Russian authorities. Thus, for instance, when Tchemkend was taken in 1864, Fort Vernoé was fixed upon as the intermediate point of communication with the Siberian frontier, and, by an agreement between the Postmaster-General at St. Petersburgh and the Commander of the troops in Western Siberia, a post route with

relays was opened in the month of June of the following year, notice of which was given in the "Gazette of the Senate," and the "Journal de St. Pétersbourg," and according to which the price per horse was fixed at $1\frac{1}{2}$ copecks (about one-third of a penny) per verst.

The itinerary accompanying this notice was as follows:

From Fort Vernoé—	Versts.
To Fort Tokmak	153½
To Fort Merke	168
To Fort Aoulié Ata	137
To the Fortress Tchemkend	162½
To the Town of Turkestan	146
To Fort Djulek	178
From Fort Aoulié Ata to the Town of Tchoulak (Chulak-kurgan)	195
From Tchoulak to Turkestan	91

To this list may now be added,—

	Versts.
From Aoulié Ata to Tashkend	285
From Tashkend to Tchemkend	95
From Tchemkend to Chulak-kurgan	131

The distance from Aoulié Ata to Lake Balkash is 276 versts, and from Aoulié Ata to Namagan on the Syr, which, however, is not yet in the possession of Russia, 137 versts.

In order to discover the best route for the conveyance of merchandize and transport of troops between Omsk and Turkestan, Captain Holmström, of the Siberian staff, was employed in 1865 in exploring the Steppe which is bounded on the north by the Chuvak, Kazyl-tau, and Aktau Mountains, on the north-west and west by the valley of the Sary-su, on the south by the Karatau range, and on the east by Lake Balkash.

In this district there are only two rivers that do not run dry in the summer, the Sary-su and the Chui, there are also a few lakes that do not dry up, viz., the Kara-kul, Saunial-kul, and others along the lower course of the Chui.

The six routes explored by Captain Holmström were,—

1. From Karakalinsk to Aoulié Ata along the western shore of Lake Balkash, to the Chui below Saly-kurgan, emerging on the Pishpek route, 70 versts east of Aoulié Ata; a distance of 800 versts. This road is good in every respect, with the exception of the portion between Lake

Balkash and across the Chui to the Pishpek road, where there is a scarcity of water and fodder.

2. From Karakalinsk to Chulac-kurgan, along a picket road to Karanemdinsk, and thence by the Semipolatinsk caravan route by Kailinbai-bulat and Tes-bulat, across the Kazan-gau ford of the Chui, to Chulak-kurgan. From thence there is a road over the Karatau range to Asret Turkestan and Tchemkend. Total length of route 1,000 versts. As far as Kailinbai-bulat the road is easy, from thence to Tes-bulat there are only three springs of indifferent water; from Tes-bulat to the River Chui (70 versts) is a waterless tract. The passes over the Karatau range are difficult for wheeled carriages, and in winter are blocked up with snow.

3. From Aktau, or Aktauskoi Fort, by Djartash (where the Semipolatinsk caravan route is reached) to Chulak-kurgan and Tchemkend, with the same inconveniences as on the route between Karakalinsk and Chulak-kurgan.

The distance from Aktau to Tchemkend is about 750 versts, from Omsk (by the Steppe, through Akmolinsk) 1,600 versts.

4. From the Sary-su Picket, through Suzak, to Asret Turkestan; as far as Ata-su, good water and forage; from thence a scarcity of both, as on the Semipolatinsk route. The pass of the Karatau by Susak is still more difficult than that at Chulak-kurgan.

5. From Akmolinsk to Asret Turkestan, as far as Kaibatz, on the Sary-su, the caravan route is followed; after crossing the Sary-su it enters the Djitz-konoor desert, then proceeds to the Chui, and crossing it at Tai, reaches Turkestan by Suzak. The chief difficulty by this route is the passage across the desert of Djitz-konoor and the arid Steppe to the River Chui; along the rest of the road forage and water are both good.

There is also more wood on this road. The distance from Akmolinsk to Asret Turkestan is 900 versts, to Tchemkend 1,050; from Omsk to Tchemkend 1,550 versts.

6. From Akmolinsk by the Nurinsk Picket and Kaibaty; thence along the valley of the Sary-su, crossing at the Karaoutkoulsk ford, and skirting the Karatau range to the Daut-dodja springs, and thence by Tiumen Aryk, on the Syr Daria, to Turkestan.

Fine meadow lands fringe the Sary-su, and the water along this route, though brackish, is serviceable. The distance from Akmolinsk to Asret Turkestan is 1,000 versts, to Tchemkend 1,150; from Omsk to Tchemkend 1,650.

These roads are, therefore, nearly equal in length; but the first five, traversing as they do, barren and arid Steppes, offer great difficulties to the transport of goods and the movement of troops. The Karatau range is also a very great impediment.

The sixth route, however, along the valley of the Sary-su presents every advantage; the road can be used all the year round, and is 700 versts shorter than that from Omsk, by Semipolatinsk, to Tchemkend, which is a distance of 2,366½ versts.

The valley of the Sary-su is capable of cultivation, and offers great inducements to settlers.

In commercial respects this route will be important, as thousands of camels already cross the Siberian Steppe laden with Asiatic goods. Akmolinsk alone trades to the amount of 1,500,000 silver roubles.

The following account of Aksu is taken from the interesting work of Messrs. J. and R. Michell, "The Russians in Central Asia:"—

The town of Aksu, situated at the confluence of the Aksu and the Kokshal, contains 12,000 houses. It is surrounded by a wall with four gates; about two-thirds of a mile to the west of the town is a Chinese fort. Aksu produces "daba" calico of good quality, and leather, both of which are exported to Kashgar, Yarkand and Khotan. A considerable number of Chinese merchants, from the province of Shanse, reside at Aksu, besides camel-drivers, who are for the most part Chinese Mussulmen.

Aksu is the point of divergence for all the roads of this region leading to China, Kuldja, and the towns of Eastern Turkestan. All the roads coming from the interior of China to the western frontier converge at the town of Han-chan-foo, whence there is a road to Lian-Djen, where a large magazine of military stores has been established. At a distance of 37 versts from this town, at the western extremity of the Great Wall, is the fortress of Tzia-yui-huan, which commands the road. From this point to Komul extends a sandy uninhabited Steppe, destitute of water, fuel, or vegetation; further on, the road branches off in two directions: to the north, by Burkul, Urumbsi,

and Hurkarasu, through Dzungaria to Kuldja; and, to the south, by Pidjan, Turfan, Buigir, and Kucha to Aksu.

The Chinese calculate the distance from Peking to Aksu at 3,844 versts (2,546 miles). From Kuldja to Aksu is a distance of 615 versts (407½ miles), through a very mountainous country, and the famous Pass of Glaciers, called by Humboldt, Djéparlé. A journey of fifteen days between these two places is considered very rapid travelling, notwithstanding the advantage it possesses in the "Urtengs," or Chinese stations along the whole road. The principal Chinese route runs from Aksu to Osh Turfan, a distance of 80 miles, and to Yarkand of 247 miles; 192 miles from Aksu on the Yarkand road is Burchuk; from hence there is a direct road to Kashgar, a distance of 159 miles.

The main road from Yarkand leads to Kashgar, through Yangshar, and on to Kokan. The distance between Yarkand and Yangshar is 113 miles, and it is 57 miles from the latter place to Kashgar; the total length of the journey from Yarkand to Kokan being 270 miles.

The following is a correct itinerary from Aksu to Yarkand, given in Mr. Davies' work, on the authority of a native trader, Mohammad Anim, of Yarkand.

	Kos.	
From Aksu to Baltang .	12	A Chinese "urthang." Road from hence in a southerly direction to Khotan
Baltang to Kukbashi ..	12	An "urthang" or police and dâk station.
Kua	7	Ditto.
Sairik	12	Ditto.
Yuka Kuduk ..	12	Ditto.
Kuduk	12	Ditto.
Chilan	12	Ditto.
Tumsuk	12	Ditto.
Maralbashi or Lai Masjid	12	Ditto. A road from this to Almasine, a Russian settlement in Kokan; and another to the east leads to Elchi in Khotan by Kara Kash.
Aksak Maral ..	12	An "urthang" or police and dâk station.
Shimal	12	Ditto.
Alaighir	12	Ditto.
Chauki Manat ..	12	Ditto.
Ajitku	12	Ditto.
Yarkand	12	
	175	

The route from Yarkand to Peking is by Aksu; it lies in an easterly direction, in a plain jungle country; wheeled carts are used for the conveyance of merchandize; provisions have to be taken.

The journey to Peking by regular stages occupies six months. The dâk, or post, however, which is taken by relays of horsemen stationed at the different urthangs reaches Peking from Yarkand in forty days, and Aksu in one day and one night only.

Yarkand, the capital of the province of the same name, is the largest and most populous city of Eastern, or Chinese Turkistan, containing 32,000 houses, and probably not less than 90,000 inhabitants; it is surrounded by an earth wall 48 feet high and 12 feet broad at the summit, which is entered by five gates, and possesses fifty mosques and colleges endowed with lands.

There are no wells in the place, but the inhabitants draw water for their daily consumption from tanks which are supplied by two canals running through the city from the Yarkand River; the streets are very narrow, generally not more than 6 or 8 feet wide, the largest bazaar being from 12 to 15 feet in width. The Persian and Turki languages are taught in the schools of Yarkand, but Turki alone is spoken throughout this and the other provinces of Eastern Turkistan.

The Chinese settlement is about a quarter of a mile to the west of the city, with which it is connected by a bazaar; it is surrounded by a moat and a fortified earth wall, with two gates defended by towers, and has a garrison 5,000 strong. The Chinese and Tungani traders who reside within the fortress number from 4,000 to 5,000. None but Chinese are allowed to pass the night within the precincts of the fort, ingress into which is only permitted to the Turkistani and others in the day time, under certain restrictions.

Yarkand is the great entrepôt of the trade which is carried on through Kashgar with Central Asia from China. Although three mountain ranges have to be traversed between Kashgar and the territory of the Uzbeck Khanat of Kokand, the road is practicable for laden camels; pack-horses, conveying 360 lbs., are, however, preferred, as they perform the journey twice or three times as quickly as the camels. The price charged per horse between Yarkand and Kokand is from 24*s.* to 48*s.*, according to circumstances.

The imports from Kokand to Kashgar and Yarkand consist of Russian specie and ingots, cotton, leather, hardware, and madder.

The yearly exports from Yarkand, by Kashgar, to Kokand and the rest of Central Asia, consist of 200 horse-loads of alum, 200 loads of white felt cloths, 50 of porcelain, and no less than 30,000 horse-loads of tea, which, at the rate of 360 lbs. per horse, would give 10,800,000 lbs. of tea, an amount which may be considered to represent the ordinary supply of the Central Asiatic market.

Nephrite, or jade, is found in great quantities in the River Ulgingash, the search for it giving employment to a large number of persons ; it is also found in the mountains of Mirdjai and Sirtash, 74 miles from Yarkand. About ten gins weight of mountain jade, and the whole quantity that is obtained from the river, is annually despatched to Peking.

Cotton grows in the neighbourhood, and is manufactured at Yarkand, and sold to the Kirghese, who are said to prefer the fabric to English calico, on account of its durability ; cotton is also exported from Yarkand to Russia, where it is used for candle-wicks.

The commercial relations between Yarkand, Leh, and Cashmere, and the routes between Yarkand and the tea-growing districts of the Himalaya will be examined further on.

There is an easy communication, of seven days journey, from Yarkand with the large town of Elchi, the capital of Khotan, the route being as follows :—

	Kos.	
Province of Yarkand.		
From Yarkand to—		
Posgam	12	An "urthang," or Chinese post station.
Luk	12	Ditto.
Chulak	12	Ditto.
Gummah	12	Ditto and a well.
Zango	12	Ditto, ditto.
Piyalmah	12	Ditto.
Khotan.		
Kumrabat *alias* "Tarbughuz" Zawa	20	Ditto. Road sandy, cross the Kara Kash River.
Elchi	20	A large town, the capital of Khotan.
Total ..	120	

The road lies in a plain open country.

This itinerary, as well as that from Yarkand to Aksu and those which I give further on, are not, as far as I am aware to be found in any work published in Europe; they are extracted from Mr. Davies' compilation to which I have already referred, a copy of which, as it was not to be procured in England, I obtained from India.

The countries through which these routes pass, though little known, are at this moment attracting so much attention that I am convinced I shall need no further excuse for an addition from which this Report may acquire a practical interest.

Route from Yarkand to Kashgar.

	Kos.	
Yarkand to ..	..	On the road is a sarai and habitation called Kokrubat where travellers can put up.
Kizil-tum	12	An "urthang" or police post; a well; no habitation; road in a plain.
Kizil	12	An "urthang" or police post; a large village through which runs the Kizil-tagh stream.
Chamalung	12	An "urthang."
Yanyshahr or Yanghisar	12	A large town of 8,000 houses, surrounded by a stone wall with two gates, with two caravansarais. The Chinese settlement lies about a mile to the westward; its garrison is 2,000 strong.
Yapchan	12	Cross a stream; an "urthang" or police post, with 50 Chinese soldiers.
Kashgar	12	
	72	

Kashgar.—When the Chinese took possession of Eastern Turkestan, in 1750, they appointed "Ambans" or Governors to each province or district, the supreme authority being in the hands of the Jang-Jang of Kuldja. Kashgar, from its vicinity to the Kokand border, was at first made the seat of a government, under a "Khan Amban," but on the occasion of its invasion from Kokan by a Khodja (Sheikh, or spiritual leader), of the Andijani, in 1832, that office was removed to Yarkand. Kashgar, and the other provinces of Chinese Turkestan, viz. Khotan, Aksu, Lai-Masjid and Ush-Turfan, were then governed by "Ambans" with a fixed garrison of troops at each chief town; the garrison at Kashgar numbering 3,000, that of Yarkand 5,000, while at Khotan there were 500 soldiers, and 5,000 more

were distributed through the other districts. Each of these provinces paid an annual tribute to the Emperor of China; that of Kashgar amounted to 48,000 rupees (4,800*l.*), 75,000 pieces of cotton cloth, and one-tenth of the agricultural produce. The tribute of Yarkand was fixed at 64,008 rupees (6,400*l.*), 100,000 pieces of cotton cloth, and one-tenth of the agricultural produce in kind. Khotan was assessed at 16,008 rupees (1,600*l.*), 25,000 pieces of cotton cloth, and one-tenth of the produce in kind. While Aksu, Lai Masjid, and Ush-Turfan, paid the Imperial Chinese collectors annually, each, 16,008 rupees, 25,000 pieces of cotton cloth, and one-tenth of produce in kind.

All the provinces of Chinese Turkestan contain extensive tracts of both hilly and level country. The mountainous portion is interspersed with rich valleys flanked by snowy ranges in which the shawl goat thrives.

The Submontane districts lying along the southern base of the Mustagh, or Koh-i-Muzat range, all produce shawl wool, which forms the principal export to Cashmere.

Kashgar, the capital of the province of that name is a large city, with a population of from 40,000 to 50,000, it is surrounded by an earth wall, 23 feet thick at the base, and 11 feet at the top, it is about 8 miles in circumference, and is defended by six towers, the gates being on the east and south west sides.

Kashgar has a number of large bazaars, 17 religious seminaries, 70 schools, and 8 caravansarais. The Mandchoo authorities and garrison live in the Chinese fort, or settlement (about 3 kos distant from Kashgar, in the direction of Yarkand), which is fortified by an earth wall and moat, and is garrisoned by 3,000 Chinese infantry. The Chinese merchants, shop-keepers, and followers all reside within the fortress, into which none of the natives, and not even the Kilmak (Buddhist) portion of the garrison is admitted. At Kashgar, the revenues were formerly collected on account of the Khan of Kokand, by a resident "Akskal," the Consul, or commercial agent of the Khan; whose business it was, also, to look after the affairs of the Kokandi traders, called "Andijani;" an appointment which was made with the consent of the Akbeg of Kashgar, and of the Chinese Government.

This was the commencement of the "Akskal" system, which paved the way for the exercise in a foreign territory of independent supreme authority on the part of the Khan

of Kokand over a large portion of the population of Kashgar, consisting of emigrants and travellers from Kokand.

The trade from China, and from Cashmere, through Yarkand and Kashgar, to the Khanats, of Central Asia, was formerly under the protection of the Yarkand Government, which levied a duty on merchandize brought to the Yarkand market, and in return protected traders from all violence on the roads within its jurisdiction. After the successful invasion of Kashgar by the Andijani, the Khan of Kokand persuaded the Chinese Government to relinquish in his favour its right to the duty levied on Yarkand traders from Kokand.

The Chinese Government, however, in order to escape the disgrace of such a concession, extended this exemption, from the levy of duty by their authorities in Eastern Turkestan, to traders from Badakshan, and all other quarters.

The Khan of Kokand then made arrangements with his Akskals, at Kashgar and Yarkand, to collect the duty for him, which was done till within a few years; and the merchants from those provinces applied for and secured the adoption, by their respective rulers, of measures for their safety on the road between Kokand, Kashgar and Yarkand.

No such arrangement, however, could be made in regard to the Cashmere and Ladak merchants, and the traders from the north-west provinces of British India, proceeding to Yarkand; these traders were not called upon to pay duty like the other merchants, but neither did they enjoy any protection, for the Yarkand Government in giving up the duty it had formerly levied, considered itself free from all further responsibility for the safety of the traders from that quarter. Hence the merchants from Leh and Cashmere have ever since been without protection against the attacks of the Kirghese, and are left to take care of themselves in the best way they can on the road. The caravans from Cashmere and Leh, therefore, always go armed, but the Koonjootie robbers, who infest the passes of the Karakoram, a band of from 100 to 150 well armed men, mounted on hardy hill ponies, lay in wait for the caravans in the desolate valleys of Aktagh or Koolunooldee, and occasionally overpower them.

Although the Chinese Government was represented by

"Ambans" in all the chief towns of Eastern Turkestan, these authorities did not interfere directly with the administration of those places; but having been called in to mediate in some of the disputes of the Khodjas of Andijan, who exercised a kind of spiritual authority in Kashgar, the Chinese took the opportunity of deposing the Kodja, and taking possession of the country. In their turn, however, the Chinese seem to have been driven out; and reports received through Cashmere represent the Chinese authorities in Eastern Turkestan to have been supplanted since 1862 by the Karakitais and the Dzungani.

It is not known with any degree of certainty whether the Chinese have evacuated all the forts and places they held in that country, but it is certain that the insurrection of the Dzungani has completely put an end to the traffic from China, through Yarkand and Kashgar, with the Khanats of Central Asia.

According to the terms of the Treaty of 1861, the Chinese Government undertook to provide at Kashgar the necessary sites required for the establishment of the Russian commercial factory and its dependencies, dwelling-houses and warehouses for the Russian merchants, and land for a burying ground.

It does not appear that any Russian Consular authority has ever yet been established at Kashgar, the state of hostilities existing between Russia and Kokand, and the insurrection in Dzungaria render this improbable; still it cannot be supposed that Russia will allow a valuable right she has acquired by Treaty to be rendered null and void by the acts of the marauding tribes now in psssession of Kashgar; and the less so, since the principal object of the persevering and successful operations of Russia on the Syr Daria, is to establish on a firm basis her commercial relations with Eastern Turkestan, and to keep open the caravan route between the Russian territories and Kashgar; not in the interest of Russia alone, but, as the Imperial Government has repeatedly declared, for the benefit of the commerce of the world.

The following is the route from Kashgar to Kokand.

The stations on this route are numbered from 1 to 24, No. 1 being the first station from Kokand.

	Kos.	
From Kashgar to ..	..	The road, after a distance of 5 kos from Kashgar, lies through a dreary desert, with no water, no grass, and no habitation.
Karaval Mingyal ..	40	Here there is a spring of water, and on reaching this place caravans from Kokand find supplies awaiting them, sent from Kashgar. It is a Chinese "urthang" of 200 soldiers (100 Chinese and 100 Kashgaris).
Bashkarwal	20	The last station in Kashgar territory. A Chinese "urthang" of 100 soldiers, half Chinese and half Kashgaris. Road as above.
Ghanju Jhalik ..	10	Khokand Customs and police post. Kirghese soldiers.
Kurghashunkani ..	12	A halting place. Lead mine, from which large quantities are supplied annually to the Khan of Khokand.
Uksalur	12	A halting place.
Kotul-i-Shahmashraf ..	8	Ditto.
Yassikachak. ..	20	The Kashgar River separates and takes a southerly course. Kirghese habitation.
Kurghan Ramankul ..	8	A Customs post. Accommodation for travellers.
Nagharschaldi ..	6	Road along the Kashgar River. On the way a Kirghese habitation called "Zighin."
Egrushtan	10	Commencement of the Terek Pass. From Kashgar to this place the road lies in a plain of open country.
Archailik	15	A halting place in the Terek Pass. Descent of 5 kos, practicable for laden horses and camels.
Dahn-i-Tirak (or mouth of the Terek Pass) also called Kurghan-i-Sufibeg	10	The road in the pass lies along the bed of the Terek stream. A Kokand Customs officer takes a register of the merchandize that passes here, which he sends to Khokand or Kashgar to enable the Khokand Aksal to levy duties on the same.
Kizil Kurghan ..	10	A halting place.
Gulshah	13	Road to this from last halting place along the "Gulshah," or Koksu stream. Habitation on the river.
Kublankool	10	A halting place. Between Gulshah and this the Khotul Gulshah, an easy pass, is crossed.

	Kos.	
Langar	10	A hamlet and sarai. On the road the Kublan Kool defile, an easy pass, is crossed. Rich country. Spring of water. Here the road emerges into the fertile plains of the province of Tergana, leaving to the west the province and town of Isfera, once a large and rich place, though now ruined; it is surrounded by a number of flourishing villages, embosomed in luxuriant gardens and groves of fruit trees, the whole country being profusely irrigated by streams flowing from the majestic Kashgar Davan.
Madu	10	A large village.
Oosh	5	A large town noted for its gardens. The River Wain (which rises in the Alai Mountains to the south-west of Oosh) runs through it. Rich fertile country. Salt mines.
Aravan	10	Cross the Dast-i-Gulbahar, a verdant plain, to Aravan, a town on the stream of the same name.
Mingtappa	5	A small town of 6,000 Kirghese dwellings. Undulating country, watered by the Suk stream.
Kaikobad	5	Water supplied by a stream from the River Murghilan.
Murgilan	15	Across a plain. On the road is a bazaar called Langar. A large town and great place of commerce, of 20,000 families, according to Chinese authorities, in a rich fertile plain, well watered by the River Murghilan, which rises in the Alai Mountains south-east of the town.
Jigda	10	A village with a sarai and market. The River Murghilan is crossed here on a wooden bridge.
Diwanah	10	A market place.
Karawal-tappa ..	25	A town; sandy road.
Langar	24	Halting place.
Kokand	16	
Total ..	345	

This road runs from Kashgar in a westerly direction to Shahmashraf, and from that place follows the southerly direction taken by the branch of the Kashgar River to Archailik, when it suddenly turns to the north, and in that direction crosses the Terek, the Goolshah Kotul, and the

Kublangkool Mountain ranges, and continues in the same direction across the plains of Fergana to Oosh, from whence it again runs due west to Kokand.

There is also a route from Kashgar to Kokand, *viâ* Andijan, viz.—

	Kos.	
From Kashgar to Oosh as in the foregoing itinerary	225	
From Oosh to Khanakar	30	A village with a sarai and a market.
Andijan to Birkilma .	50	The road from Oosh to Andijan lies in a fertile plain occupied by Kirghese, Kipchaks, and Andijani. At Kirkilma, a halting place, is an effervescing spring.
Karawal-tappa ..	..	Road sandy; country occupied by Kipchaks.
To Kokand	40	As in foregoing route.
Total from Kashgar .	345	

These routes are open all the year, caravans passing daily to and fro with merchandize.

Though it snows more or less in the passes during the winter, all three are practicable during that season for laden camels and horses.

The Terek is the highest of these passes. The journey between Kashgar and Kokand occupies from twelve to eighteen days; but it is sometimes performed in eight days.

Kokand, the capital of Khanat, has been described by me in a former Report; it is an open town entirely without defences, and is said to contain 60,000 inhabitants; the Chinese authorities, however, reckon the population at 30,000 families, and if this is correct, the number would be nearer 100,000 souls.

The other chief towns of the Khanat are Andijan, Murgilan, and Namagan, thriving commercial places, situated in fertile districts, producing large quantities of silk and tobacco, with populations little inferior to that of Kokand.

Two days' journey from Namagan, in the Alatau Mountains, north of the Syr, are rich silver mines. Four days' journey from the same town, on the road to Fort Ketman Tepe, is another silver mine. Of the ore extracted from this mine, 1,000 tchariks gives 100 tchariks of lead,

the lead producing 1 tcharik of silver—1 tcharik equal to 4 poods (144 lbs.).

Copper and iron ore are found in the neighbourhood of Khodjend, as well as near Tashkend.

All the chief towns of Kokand were farmed out by the Khan to the most influential of his officers or courtiers, who were appointed Kushbegis, or Governors, of those towns and the territories under their jurisdiction, and who paid a yearly tribute to the Khan.

The towns farmed in this way were Tashkend, Khodjend, Namagan, Andijan, and Murgilan, of which Tashkend was the most important.

In 1850 the Kushbegi of Tashkend paid 40,000 tilla (24,000*l.*) to the Kokandan Government, his territory at that time extending 50 versts in the direction of Kokand, while the following places were also under his dominion, viz., Aouliéata, Chulakkurgan, Sirzak, Tchemkend, and Ak-Mechet, now Fort Peroffski, as well as Chinas, in the direction of Bokhara.

As soon as a Kushbegi was established in his Government, he farmed out the towns and villages under his jurisdiction to his favourites, who were called Beks, Dadshi, or Akskals, according to the size of the place they administered.

In time of war each Kushbegi was bound to furnish a contingent of troops, rated according to the extent and value of his Government. These troops were volunteers, equipped at the expense of the Kushbegi, who for that purpose had a list of the names of those who were willing to serve under him; thus the Kushbegi of Tashkend had 7,000 names on his list. When peace was concluded, the volunteers were disbanded and returned to their homes, the Khan and the Kushbegis only retaining a small force sufficient for the execution of their orders. The reason of this was simple enough: the revenue of each Government, after payment of the tribute due to the Khan, being the private property of the Kushbegi, it was his interest to reduce the military expenses to the utmost, and as quickly as possible. The Khan being actuated by the same motives, was equally economical.

As the whole army, however, with the exception of that raised at Kokand, was paid by the Kushbegis, the Khan could place very little dependence on it, for a Kushbegi could, at a moment's notice, withdraw his contingent, the troops naturally obeying the authority by

whom they were paid. Nor did the Khan venture to keep up too large a standing army, for this would have excited the suspicions of the Kushbegi, who, conceiving themselves menaced, would have risen against the Khan.

The result of this organization was, that Kokand, though larger and richer than Bokhara, was continually attacked, and generally beaten by her neighbours.

The reported movements of the Russian forces last autumn in the direction of Samarcand induce me to give the following march routes from Kokand to Bokhara by Samarcand, and from the latter place to Kerki, on the Amu Daria:—

	Kos.	
Kokand to Beshyaric ..	6	A large village and a bazaar.
Chihil Mahram ..	12	A large village and a bazaar, inhabited by Usbecks and Tadjiks.
Khodjend	12	One of the large populous towns of Kokand, on the left bank of the Syr; a fortified and important strategical post, commanding the road to Kokand and Samarcand. A place of great trade, famous for its silks. Iron-ore in the neighbouring Kendyr Tau.
Khastigurman ..	8	A large village. Stream.
Kaseli	6	Ditto, ditto.
Uratepe	10	A small flourishing town on a tributary of the Djam-Daria, one of the strongest forts of Kokand, on the Bokharian frontier.
Djam	12	A large village with a bazaar and fort across the Aktagh mountains.
Zamin	10	A large village with a bazaar and fort in Bokharian territory.
Djüzak	12	A small town and strong fort.
Yangi Kurgan ..	12	A large village with a bazaar in the Dara-i-Saibai, a long valley inhabited by Kirghese and Usbecks.
Kisht Kinbruck ..	8	A large village.
Samarcand	8	A large city, famous for its fruit gardens and silks. The River Samarcand which fertilizes the province of Bokhara and hence called "Zerafshan," flows to the north-east of the town at a distance of about 4 miles.
Karasu	10	A large village.
Katakurgan	12	A small town.
Karmina	18	A large town.
Bostan	16	A small town.
Bokhara	12	
Total ..	184	

This route throughout lies in a thickly-inhabited, well-cultivated, rich country, in both the Bokhara and Kokand territories. Abundance of fruit all the way. The road is practicable for wheel carriages, which pass to and fro between Bokhara and Kokand. The Bokhara portion is watered by numerous canals from the Samarcand or "Zerafshan" River. Caravans traverse this route in twelve to fifteen days. The following route is given by Vambéry :—

From Samarcand to Kerki on the Amu, viâ Karshi.

From Samarcand to Karshi there are three routes : the first by Sheri-Sebz, a circuitous route, but traversed by wheeled conveyances ; the second, by Djam, fifteen miles through a stony mountainous country almost impracticable for carts ; the third through the desert, barely eighteen (German ?) miles.

The latter route was taken by Vambéry :—

	Farz Parasangs.	
From Samarcand to ..	..	Pass two villages, road through well-cultivated country.
Robati Hauz ..	3	A caravansarai ; here the road divides, on the left passing by Djam, on the right traversing the desert by Nayman.
Nayman	6	A convenient and safe route, with wells across the desert.
Shurkuduk	4	Before reaching Karshi the road divides, leading on the right to Kette Kurgan.
Karshi	5	The second city in importance of the Khanat of Bokhara, with 25,000 inhabitants, well placed for trade with Bokhara, Cabul, and India ; celebrated for its manufactures of fine steel. Weakly fortified.
Feizabad	2	Large rich village.
Sengsulak	6	A large cistern.
Kerki	6	Frontier town and fortress of Bokhara, on the Amu (Oxus). A fort on right bank with 4 guns ; citadel on left bank with 12 guns. The key of Bokhara on the side of Herat.
Farz parasangs .	32	

The following account is given by Wiljaminoff Sermow of the road between Kokand and Tashkend.

Starting from Tashkend there are, he says, two roads to Kokand, the western and the eastern, the former being the longer but the easier of the two.

Two versts from Tashkend, on the western road, the river Salarka is passed at a point where it is 10 fathoms wide. Beyond the Salarka, 6 versts from the town, the Chirchirk is crossed; here there is a Custom-house, at which travellers proceeding to Kokand used to be examined. The road from thence to Taitjübe, a distance of 24 versts, passes through a flat country covered with reeds. Luxuriant rice-fields and the dwellings of the Kaisak cultivators are seen in every direction round Taitjube, which was formerly a fortress, but is now in ruins; the hamlet attached to it consists of some 200 mud huts, the owners of which are chiefly engaged in field labour; the surrounding country is admirably irrigated and exceedingly fertile. Six versts beyond Taitjübe, on the right of the road is Fort Kreutchi, built on a spit of land formed by the Angara. This river flows in numerous branches from the mountains called Kendyr Tau; its banks, from its source to its confluence with the Syr, are planted with rice, and studded with "kyshlaks," hamlets of farm buildings, belonging to the Kuramani. Kreutchi is surrounded by a mud wall 3 yards thick, and from 200 to 250 fathoms in circuit; towards Tashkend it is defended by a double rampart and ditch; the only dwellings within it are the Commandant's house and barracks for the troops, of which in time of peace there are from 100 to 150. There being no spring or well in the fort, water has to be brought from the Angara. From Kreutchi the road runs past the Forts Urkal and Karakitai, the first, which is in a half-ruined state, is inhabited by Kuramani Usbecks, who are engaged in the cultivation of rice; the second is inclosed by a mud wall $1\frac{1}{2}$ versts in circuit. The first of these forts faces the high road, the second the River Angara.

From Kara Kitai the road continues to Tlau, a small place of 600 houses, inhabited by husbandmen. Eight versts from Tlau is Koch Rawat, a caravansarai for travellers, at the foot of a spur of the Kendyr Davan. Here begins the very difficult ascent of a steep mountain pass, on the summit of which is a half-ruined caravansarai. Eight versts beyond, in a gorge, is a cluster of 70 huts, a "kyshlak," called Mulla Amir. From Mulla Amir it is 8 versts to Baba Turchan, another "kyshlak" of 100 houses,

surrounded by fields and gardens. Twelve versts further, Katta Kurgan is reached, a "kyshlak" of 250 houses, with gardens and fields. From Katta Kurgan it is 8 versts to Scheidan, a small place of 300 mud-houses, with many gardens. Agriculture is, however, but little carried on, owing to the rocky nature of the country. From Scheidan the road, as it descends to the Syr, is much easier and less precipitous than the ascent from Tashkend; but the country here is barren, while above Scheidan there are plenty of firs, pines and juniper. Twelve versts beyond Scheidan is the village Kara-bulak, and 12 versts further the ferry across the Syr, called Tchil Mairam. On the south bank of the river is a caravansarai, from whence to the village of Dichan there are 8 versts. The road, for the next 20 versts to Kokand, passes through a rich and well-cultivated country studded with small farms.

The eastern road from Tashkend to Kokand is shorter but much more difficult, passing directly through the mountains to Tlau; it leaves Taitjübe on the right.

Having described the route from Yarkand and Kashgar to the Syr Daria, I will endeavour to show what prospect there is of that river becoming available for purposes of trade.

The Syr Daria, supposed to be 2,000 versts in length, is formed by the Naryn, the Gulishan, and the Jumgol, the Naryn being its chief tributary.

These rivers rise in the south-west slopes of the Thian Shan mountains, and flowing westerly in almost parallel directions form, below Namagan, a wide and deep river, navigable throughout its course.

As far as Khodjend the river runs through a mountainous and wooded country; but on passing that city, it turns to the north, having on its left bank the Desert Kizil Kum, which extends to the Sea of Aral, and on its right the Kara Kum Desert, which stretches in a north-easterly direction to the Orenburg frontier. Hitherto, as far as the Kokandians are concerned, the Syr Daria, though in every way adapted for navigation, since, with the exception of the shallows in its lower course, there is nothing to impede it, has not been used as a means of transporting merchandize.

There are only three ferries across it, one at Tchil Mairam, near the city of Kokand, at which point the river is 150 fathoms wide, and of considerable depth; the second,

on the road from Tashkend to Bokhara, about 60 versts from the former town; and the third, which is called Utschkalk, near the town of Asret Turkestan, on the caravan road from Bokhara to Troitsk and Petropavlovsk.

These ferries were formerly kept up by the Kokandian Government; the barges employed at them are large flat-bottomed vessels capable of containing 600 poods; the fare across the ferry at Tchil Mairam is 1 tenga ($7\frac{1}{2}d.$), and at the others 2 tengas per camel.

That there is no want of timber on this river or its tributaries for purposes of boat building may be inferred from the fact mentioned by Wiljaminoff Sermow: that, in 1840, a Tartar fugitive from Russia established himself on the Gulishan, and was engaged for four consecutive years in felling timber and floating it down to Kokand, a distance of 300 versts. In the first year he cut down 8,000 fir-trees, but the speculation did not pay, and was discontinued.

The necessity for bringing coal, for the use of the Aral flotilla, all the way from the Don, at an expense of 12*l.* per ton, was a great drawback to steam navigation on the Syr; but in 1863 coal was found by General Tchernaieff in the Karatau hills, 120 versts from the Syr Daria, near Chulak-kurgan, which proved to be of excellent quality, and other coal seams have since been found on the southern declivity of the Karatau, on the bank of the Great Bogun River.

On reaching the district of Ak-Mechet the river divides into three branches, the northernmost of which retains the name of Syr, the middle branch being called Kuvan and the southern Jany-Daria.

The two latter, which formerly emptied themselves into the Aral, are so much drained by canals in their upper course and by dams built by the Kirghese for agricultural purposes, that, before reaching the sea, they dwindle to streamlets, and are lost in the sand of the desert, or in the dense jungle of reeds and rushes that fringe the eastern shore of the Aral.

The Syr itself reaches the Aral in two branches, the northernmost of which alone is navigable. At its mouth are several islands, on the largest of which, Kos Aral, a fishing colony was already established in 1848, and a redoubt had been built for the protection of vessels navigating the Aral. The Kirghese frequent the mouths of the Syr in great numbers, especially in the winter, when

the reeds and rushes, which grow to a height of more than 15 feet, afford them shelter from the piercing winds that sweep across the snow-covered deserts, and serve at the same time as fuel for themselves and fodder for their cattle.

In the summer the Kirghese use small rafts made of reeds or bamboo fastened with camel-hair ropes, to cross the Syr, as well as to reach Kos Aral; but in the winter they perform the passage across the ice to the larger and more distant islands, where water and pasture are to be found for their flocks and camels.

M. Makschejew, who accompanied Lieutenant, now Admiral, Butakow in his survey of the Aral, says that the Kirghese and their cattle are occasionally lost on their return in the spring to the mainland, by the ice suddenly breaking up before they can reach the shore. A party of Kirghese, to whom this had happened in 1848, and who had saved themselves with a few sheep, were taken off from one of these islands, in a starving condition, by the first Russian fishing-vessel that was launched on that inland sea.

The north-east end of the Aral is so much shut off by islands that it is called the Little Aral, while the rest of the sea goes by the name of the Great Aral, a circumstance which probably gave rise to the error that existed formerly in some maps, in which two separate lakes were laid down. The island called Kug Aral, which forms, as it were, the southern boundary of the Little Aral, is about 40 versts long and 10 broad. The northern and navigable branch of the Syr empties itself into the Little Aral, which also possesses one of the only three harbours which the shores of this inland sea afford, viz., Tchubar-Taraus, the western portion of Perowski Bay; the second being Tatsche Bas Bay, at the mouth of the Djany Daria on the east coast; while the third is on the south-east coast of the Peninsula Kulandy, in the north-west corner of the Great Aral. There are, however, two good harbours on the north and south of the Island Nicholas I.

The western coast of the Aral is formed by the precipitous cliffs of the desert plateau of Ust Urt, along which runs the caravan route from Khiva to Orenburg. Kulmugur, on this coast, is the point which General, now Field-Marshal, Count Berg reached in his journey across the desert in 1826 from Novo Alexandrovsk on the Cas-

pian. This route is by far the shortest passage across the deserts that separate the two seas, being about half the distance of the caravan route from Novo Petrovsk in the peninsula of Maugyschlak to Urgendji on the Amu, and bearing the same proportion to the route from Baikan Bay on the Caspian to Khiva and the Amu.

In the event of the Syr Daria becoming a highway for the conveyance of merchandize to Europe, it is probably by this route that goods will reach the Caspian, since it will have the advantage of water carriage across the Aral in addition to that of the desert journey being half the usual length.

The depth of the sea along the western coast of the Aral, according to Makschejew, is very considerable, in some places from 30 to 70 fathoms; while on the south coast, owing to the mud brought down by the Amu Daria and the sand thrown up by the surf and the violence of the prevalent north-east wind, there are few places where vessels can approach the shore, and then only those which have a draught of water not exceeding 2 feet.

The southern shore of the Aral is entirely occupied by the delta of the Amu, the principal branches of that river, reckoning from west to east, being the Landau or Aibugyr, the Taldyk, the Ulkum Daria, and the Yaugy Su or Kuvan Daria. All of these are much encumbered by reeds, and excessively shallow. The principal mass of water from the Amu flows through the Ulkum Daria into the Aral. It was by this stream, in 1859, that Admiral Bukatow reached the main branch of the Amu, in a steam launch of 12 horse-power, having had, however, to cut his way through such a compact mass of reeds that it took a whole day to steam a distance of $2\frac{1}{2}$ versts. In crossing the bar of the Ulkum Daria in a larger steamer, a channel had to be dug out, through which the vessel advanced inch by inch; this was in the month of July, but in the following September there was a depth of 4 and $4\frac{1}{2}$ feet of water on the same bar.

Between the bays Kin-kumys and Taldyk, on the South Coast, is the Island of Tokmak-ata, separated from the mainland by a fresh water channel 4 versts across but only 2 feet deep. This island is a place of pilgrimage, and the greater number of the pilgrims who visit it do so by wading across the channel. The Khan of Khiva, who

performs his devotions there once a year, pays his visit in the winter, and goes across the ice.

The shores of this island, which is 25 versts long and 5 versts broad, are thickly covered with a reed or kind of bamboo called "djida," bearing a fruit something like a small date, the collection of which is a monopoly of the Khan. Along the Eastern Coast of the Aral are scattered a number of sandy islets, the shores being for the most part fringed with reeds, which extend a considerable distance inland, forming a dense jungle, in which are found tigers, wild boars, antelopes, foxes, wild swans, pelicans, and every description of wild fowl.

The following summary of the progress of Russia on the Syr Daria may not be out of place here:—

1847. General Obrucheff, Governor-General of Orenburg, selects a convenient spot above the mouth of the Syr Daria, at Raim, where he builds a fort afterwards called Aralsk. In this year three vessels constructed at Orenburg for the navigation of the Aral, are transported in pieces across the desert to Raim.

1848. Survey of the Aral commenced by Lieutenant, now Admiral Butakow, and concluded in two years.

1850. First steamer ordered for the navigation of the Syr Daria, a screw-steam launch, "Obrucheff," of 12 horse power, built at Motala Iron Works in Sweden for 5,620*l.*

1852. Steam launch "Obrucheff" and steamer "Peroffski," 40 horse power, reach Fort Aralsk in November, in pieces, and are put together in the course of the winter. Reconnaissance in force under General Blaramberg up the Syr Daria; unsuccessful attack on Ak-Mechet, in the course of which, however, the outworks of that place are destroyed, three small forts, Kumysh Kurgan, Chin Kurgan, and Kosh Kurgan, taken and demolished by General Blaramberg.

1853. Launch of the steam-vessels "Peroffski" and "Obrucheff." Expedition under General Peroffski against Ak-Mechet.

July 2. Arrival of General Peroffski before Ak-Mechet.

July 4. Steamer "Peroffski" reaches Ak-Mechet with a company of infantry.

July 8. Five batteries open on Ak-Mechet.

July 23. Djulek, a fort 100 miles above Ak-Mechet,

which had been abandoned by the Kokandians, taken and destroyed by a reconnoitring party under General Paduroff.

July 28. Ak-Mechet taken by storm after a most heroic defence. Two forts built by General Peroffski on the Syr Daria, one at the source of the Kazala, the other at Karmakchi settlement, and Kumys Kurgan repaired and occupied. These three forts called respectively Forts No. 1, No. 2, and No. 3. Ak-Mechet now called Fort Peroffski.

December 14. The Kokandians, 13,000 strong, attempt to retake Ak-Mechet, but are repulsed.

During the Crimean War no progress made by Russia on the Syr Daria.

1860. The flotilla increased by steamers "Aral," 40 horse power, "Syr Daria," 20 horse power, steam-tug "Obrucheff," and several barges and boats.

1861. Djulek fortified, and Yany Kurgan, a Kokandian fort, destroyed by General Bezak. Djulek is 150 versts distant from the point at which the Syr approaches nearest Tashkend, this city standing 50 versts eastward of the Syr.

1862. Fort Pishpek, on the Chui, taken by Colonel Kolpakovski.

1864. Aoulié Ata, on the Tolas, taken by a Russian detachment.

March. Asret Turkestan, fort and frontier town, taken and occupied by the Russians.

October. Tchemkend taken by General Tchernaieff.

1865. Kokandians defeated in a pitched battle near At-Bulak by General Tchernaieff, their leader, Alim-Kul (Regent of Kokand during the minority of Sultan Sahib) killed.

June 15. City of Tashkend taken by storm, and 20 square miles, including Forts Kiriuchi, Niazbek, and Chinaz annexed to it.

September 23. General Kryzanowski declares Tashkend and the surrounding country as far as the Syr Daria, to be an independent State under the protection of Russia. Subsequently, at the petition of the inhabitants, Tashkend is declared to be Russian territory, and is made the capital of Russian Turkestan. Mr. Struve, sent on a Mission to Bokhara, is detained a prisoner.

1866, February. General Tchernaieff marches on

Djuzak, 50 miles north of Samarcand, but is obliged to retreat to Chinaz.

April 12. Successful razzia under General Romanowski near Uratepe.

April 20. Defeat of the Bokharian army, commanded by the Khan in person, at Irdjar, by General Romanowski.

May 26. The Russians advance up the Syr, capture Fort Naou, and a few days later take Khodjend, the most important place on the Syr, thus establishing 80 miles of the river, from Chinaz to Khodjend, as a frontier in advance of Tashkend.

October. Uratepe taken by storm.

Djuzak, a Bokharian fortress, taken after five days' siege, with 26 standards and 53 pieces of cannon.

The result of these victories has been, in the first place, the liberation of Struve and his companions; and, although no Treaty has been concluded between Russia and Bokhara, the Khan is reported to have submitted to the conditions imposed on him by General Romanowski, the most important of which are said to be as follows: the Russian troops to be left in unmolested possession of the positions they hold, the Emir to desist from all hostile attempts against Kokand, to keep open the great caravan routes, and to offer no obstruction to the free navigation of the upper course of the Syr Daria. Reciprocal facilities to be afforded on both sides to commerce, and complete protection to persons and property.

In order to cut off all communication between Bokhara and Kokand, a *tête-de-pont* is being constructed opposite Khodjend, which will be strongly garrisoned by Russian troops, thus relieving them from the necessity of keeping a large force at Khodjend.

The Aral squadron, which in 1860 consisted of three steamers, one steam-launch, and one steam-tug, has since been increased by one steamer, three transports, and six steam-launches, making a total of four steamers, seven steam-launches, three transports, and one tug. Another steamer of 70-horse power and 150 feet in length, with a draught of 2 feet, making 17 versts an hour, will shortly be placed on the river.

With these vessels at her disposal, Russia has now the complete command of the Syr Daria, which by this time has probably been navigated as far as it is possible to proceed. It cannot, therefore, be doubted that an important

step has thus been made towards opening a great natural highway for commerce through the heart of Central Asia, and one which, as it will combine cheapness and safety with rapidity of transit, is likely to prove attractive to trade.

Although the entire export and import trade of Central Asia has been examined in detail in my Commercial Report of 1862, the important position which Tashkend will henceforward occupy in the trade of the East may render some account of the condition of trade in that city desirable on this occasion.

The following statement of the prices of goods in the bazaars of Tashkend is taken from M. Nebolsin's work on Central Asia :—

Manufactures Exported to Russia through Tashkend.

Central Asia supplies the eastern provinces of Russia with large quantities of cotton fabrics in pieces, and worked into long robes, called "khaluts" worn by the Mahomedan population, as well as curtains, girdles, and turbans.

Biaz, a cotton resembling linen, the most inferior comes from Tashkend; a piece of 14 yards long costs at Tashkend $10\frac{3}{4}d.$ to $1s.$ $4d.$

Dyed Biaz, obtained at Tashkend, at $84s.$ per 100 pieces, of $9\frac{1}{2}$ to 11 yards, but more frequently 10 yards with a width of $10\frac{1}{2}$ inches. On the Orenburg frontier these goods sell $1s.$ $2\frac{1}{4}d.$ to $1s.$ $7\frac{1}{2}d.$, and sometimes $1s.$ $9\frac{1}{2}d.$ per piece. The importations from Tashkend in transit from all parts of Central Asia between 1840 and 1850, of this class, exceeded 1,260,000 pieces of the value of 32,642*l.*

Printed Cottons.—The ordinary price of Tashkend prints is $6l.$ per 100 pieces, of 14 yards in length; the native prints are generally $10\frac{1}{2}$ inches in breadth and 14 to 19 yards long, each piece weighing about $7\frac{3}{4}$ lbs. At Troitsk, when bartered for Russian produce, they fetch $3s.$ per piece. Sales for money are effected at a discount of 20 per cent.

Silks.—The only fabric of pure silk imported into Russia is a narrow striped, and sometimes single coloured stuff resembling Russian Gros de Naples, manufactured at prices varying from $12s.$ to $6s.$ per piece of $5\frac{1}{2}$ yards, according to quality.

Tashkend supplies handkerchiefs of pure silk, very light

in weight and dyed in various colours, they are produced at 9*d.*, and sold in Russia at 2*s.* 6*d.* per piece.

Silk fabrics with a cotton woof, and either double or single faced are more in demand; they are divided into "Banares," or "Mìsri," a stuff with narrow stripes; "Bikasap" with broad stripes, and "Adrias," a fabric with an irregular wavy pattern on a plain ground. The prices at Tashkend for a quantity required for a robe or khalat, being, Banares, 11*s.* to 15*s.*; Bikasap, 8*s.* 4*d.* to 10*s.* 9*d.*; Adrias, 10*s.* 9*d.* to 12*s.*

Dressed lamb skins are chiefly brought to Orenburg by Bokharian traders, between 1840 and 1850, 4,134,977 were imported from Bokhara at 36*s.* per ton of first quality, and 48*s.* to 60*s.* per 100 for common.

Turcoman carpets sell at Tashkend at from 6*s.* to 6*l.* each.

Madder, grown in the vicinity of Namagan is imported by Russian traders to Kazan and Nijni-Novgorod; although grown very extensively on the southern frontiers of Russia, the importation from Central Asia is increasing, and is fast superseding cochineal. After the madder of Astrakhan, Derbent, and Trans-Caucasia, or the so-called Persian madder, the next in quality is that of Kokand, the Bokharian is second, and the Khivan the worst. The price of madder varies considerably in the native market. In Namagan and Tashkend it has been sold at 93*s.*, 105*s.*, and 120*s.*, and even 132*s.* per camel load. In 1849 Central Asiatic madder sold at Nijni-Novgorod at 32*s.* 6*d.* for cash, and 37*s.* 4*d.* for goods, while Derbend madder fetched 60*s.* per cwt.

Indigo is in great demand throughout Central Asia, and is supplied from Hindustan. The Bengal indigo is considered the best. This is an important article to Russia, and its more extensive introduction is seriously occupying attention. Mr. Nebolsin was told that Bokhara was supplied from Moultan. In 1849–50 the prices of indigo were as follows at Tashkend: First quality, 10*l.* 5*s.* 4*d.* to 11*l.* 4*s.*; medium, 8*l.* 8*s.*; lowest, 7*l.* 9*s.* 4*d.* per cwt.

Pepper, which reaches Tashkend from India, by way of Cabul, sells at Tashkend at 46*s.* 8*d.* to 56*s.* per cwt.

Manufactures, &c., Imported into Tashkend.

Cotton Prints.—English prints supplied by way of Meshed. Twenty pieces fetch 13*l.* 14*s.*, and a similar

quantity of a superior article will sell at 16*l.* 16*s.* The better description of Russian prints vary in price according to the trade-mark, fetching from 18*s.* to 19*s.* 2*d.* per piece of 35 yards.

Calicoes for Central Asia are prepared in small pieces of $9\frac{1}{3}$ to $12\frac{1}{2}$ yards in length, at a price from 3*s.*, but not higher than 4*s.* 6*d.* Larger prices are unsuited to the market. It is evident from these prices that the quality of the calicoes must be very inferior; being produced by hand, they have not the evenness of calicoes manufactured by machinery. In Tashkend calicoes are sold in lots of 20 pieces, wholesale. The prices in 1850 were: 20 pieces of $8\frac{3}{4}$ inches wide, 4*l.* 4*s.*; 20 pieces of $10\frac{1}{2}$ inches wide, 4*l.* 16*s.*; 20 pieces of $12\frac{1}{4}$ inches wide, 6*l.*

Ginghams.—Two descriptions of ginghams are in demand in Central Asia. The higher qualities are prepared in pieces of 31 yards in length, and $24\frac{1}{2}$ inches wide; the second quality in pieces of 31, 35, and 39 yards in length, with a breadth of 14 inches. At Nijni-Novgorod fair these ginghams cost, the former $5\frac{3}{4}d.$, the latter $2\frac{1}{2}d.$ to $3\frac{1}{2}d.$ per yard. At Orenburg and Troitsk they rise to 6*d.* and $7\frac{1}{2}d.$ per yard; while at Tashkend they sell at the same prices as prints, or at 16*s.* to 24*s.* and 16*s.* to 18*s.* per piece for first and second qualities.

Cotton Handkerchiefs.—Great quantities of cotton handkerchiefs are exported to Central Asia. They vary in price from 1*d.* (wholesale) to $4\frac{1}{2}d.$ per piece, or 4*s.* 6*d.* per dozen, and generally measure from 7 to $12\frac{1}{4}$ inches square; rarely 14 to $17\frac{1}{2}$ inches. The article most in demand at Tashkend is of crimson colour, with variegated scrolls and flowers, at 7*l.* 4*s.*, 8*l.* 8*s.*, and 10*l.* 4*s.* per hundred, according to size. Bright colours are preferred. Green cambric handkerchiefs at 3*l.* 12*s.* to 4*l.* 4*s.* per hundred; cotton handkerchiefs, called "cashmere," 4*l.* 4*s.* to 5*l.* 2*s.* Ordinary cotton handkerchiefs of small size are also used for girdles, towels, and napkins. They are, therefore, sold entire in the piece, according to the quantity required. Large-sized common handkerchiefs, imitations of cashmere, are used by women for turbans.

Cambric Muslins.—Cambric muslins sell at Orenburg at $2\frac{1}{4}d.$ to $3\frac{3}{4}d.$ per yard, and in Troitsk at $3\frac{1}{2}d.$ to $4\frac{1}{2}d.$ They are generally packed in the same bales with prints, and made up in lengths of 31 to 39 yards, and fetch at Tashkend 16*s.* 10*d.* per piece.

Muslins.—The muslins sent to Central Asia are of the most inferior qualities. The best are woven at the ends, to a length of 28 inches, with tinsel, gilt, or silver thread, and are produced at $4\frac{1}{2}d.$ per yard; the second quality is a common white muslin, produced at $2\frac{1}{4}d.$ per yard. The price at Tashkend for muslins worked at the ends with gold thread is 9*s.* per piece of 9 yards, or 9*l.* per lot of 20 pieces.

Indian Muslins of similar length and width sell at 12*s.* best quality, and 6*s.* lowest quality. Muslins for turbans, 6*s.* per piece of $11\frac{3}{4}$ yards.

Nankeens.—The quality of nankeens manufactured exclusively from the Asiatic raw material may be easily estimated, from the fact that a camel-load of these stuffs consists of 200 pieces, each 21 yards in length; the weight of a piece is, therefore, not more than $2\frac{3}{4}$ pounds. The nankeen exported to Asia, and consumed to a considerable extent in Russia, is manufactured from ordinary thread—Nos. 20 to 22 for the warp, and Nos. 24 to 26 for the woof. This fabric goes by the name of "nanka;" but a nankeen is produced at about 5*d.* to $7\frac{1}{2}d.$ per yard, from Nos. 30 to 32 for the warp and the woof respectively. The nankeens of Asia are either plain or striped, at 6*s.* to 12*s.* per piece, and sell at Tashkend for 10*s.* $9\frac{1}{2}d.$ per piece. Another description of nankeen—something like fustian, and either white or dyed in Turkey red—is manufactured from Central Asiatic cotton. Kazan and Astrakhan are the principal seats of its manufacture; it fetches 2*s.* $3\frac{1}{2}d.$ to 3*s.* 1*d.* per yard. Like nankeen, this material, locally called "Kümatch," is used in khalats and pelisses.

Plush.—The cotton-friezed material known in the Asiatic trade as plush, has no resemblance to the fabric properly so called. It forms, however, a considerable item in Russian exports to Central Asia, and is used for robes and pelisses, as well as for waistcoats, trousers, and other articles of dress. The price at which it has to be sold to the trader who carries it to the fair of Nijni-Novgorod—viz., 15*s.* per piece of 39 yards—leaves but little profit to the manufacturers, and shows the inferiority of the fabric. At Tashkend a piece of black plush, 39 yards long, sells at 24*s.*; printed ditto, $15\frac{1}{2}$ yards long, at 18*s.*

Manufactures in Wool.

The cloths supplied by Russia to Central Asia are prepared with the sole view of cheapness, and are sold at the fair of Nijni-Novgorod at 1*s.* 10*d.* to 2*s.* 8*d.*, but not higher than 3*s.* 10*d.* per yard, in pieces 17 yards long and $1\frac{1}{3}$ yard in breadth. A piece will weigh $13\frac{1}{2}$, 14, and 16 pounds, according to the stoutness of the article, and 18 to 20 pieces form a bale, or half the load of a camel. The principal colour in demand is crimson; the next are green, violet, olive, and light blue; black is sent in the small proportion of 10, rarely 20 to the 100. There was a time when Russian cloths found their way to Cabul; but they have been driven out by English manufactures, now brought to the markets of Central Asia by Persian merchants. The prices fetched for Russian cloths at Tashkend are 3*l.* 6*s.* per piece of 17 to $17\frac{2}{3}$ yards in length, and 49 to $52\frac{1}{2}$ inches broad; pieces of the same length, but exactly 56 inches wide, fetch 4*l.* 4*s.* At Tashkend a piece of cloth will be valued at 4*l.* 4*s.*, although its market value is only 3*l.* 6*s.*, owing to the duty on those manufactures being levied in kind.

Manufactures in Silk.

The silks most in demand at Tashkend are of striped and variegated patterns; during the last few years Russian silks have fallen considerably in price in this market, those which formerly sold at 5*s.* 1*d.* per yard are now purchased at 2*s.* 10*d.* to 3*s.*, and no silks above the latter price are now sent to the Asiatic markets. The fabric most esteemed in Central Asia is a silk, satined and striped with patterns of tulips and other flowers at 2*s.* 11*d.* per yard. The second quality is also a satined mixed silk with a different ground from the pattern; it is sold in pieces of 39 yards of a breadth of 14 to $17\frac{1}{2}$ inches, their prices vary according to quality from 9*d.* per yard.

Velvet.—The cotton velvets are seldom higher than 1*s.* per yard; a piece contains 17 yards, with a width of 21 inches. The cotton velvets of higher quality, but seldom dearer than 5*s.* $9\frac{1}{4}$*d.* per yard, are only exported as fancy articles.

The following are the prices of Russian silks in the bazaars of Tashkend:—

Light silks, 36*s.*, 48*s.*, 60*s.*, and 72*s.* per piece; satinet,

6*l.* per piece ; velvet half-silk 5*s.* 7*d.* to 7*s.* 8*d.* per yard ; velvet silk, not higher than 11*s.* 6*d.* per yard.

The mineral resources of Central Asia being hitherto unexplored, the demand for foreign metals and hardware is very considerable and forms nearly half the amount of exportations from Russia to Central Asia. The following are the conditions in which the metals are required :—

Copper, red, in blocks, brass manufactured copper wire.

Iron manufactured, scrap, bars, and sheets.

Steel and manufactures of steel.

Tin, spelter, quicksilver.

Copper is in great demand and is principally supplied by the Troitsk works. Brass is generally sent manufactured in articles, that most in demand being gigantic tea urns which stand on the ground and are 3 or 4 feet high, pitchers, basins (resembling English milk-pans), round trays of all sizes, cauldrons in small quantities, and sundry articles for domestic use ; the least important items being brass in wire and in sheets.

The price of red copper in blocks (no other is exported) at Tashkend is 24*l.* per camel load, it is wrapped in mats and thin felts to prevent the packages from chafing the backs of the camels.

Iron.—Rod and bar iron is purchased at Troitsk at from 7*s.* to 8*s* 3½*d.* per cwt., and at Orenburg from 9*s.* 4*d.* to 10*s.* 7½*d.* per cwt. In Tashkend, iron sells at 84*s.* and 96*s.* per camel load as above.

Iron in a manufactured state is exported chiefly in the shape of jugs, locks, staples, knives, trays, &c.

Cast Iron.—Cast iron is only exported in a manufactured state and costs from 7*s.* 11*d.* to 10*s.* 3*d.* per cwt. ; at the place of production cast iron is 2*s.* 9*d.* per cwt.

Steel.—The steel exported to Central Asia comes exclusively from the fair of Nijni-Novgorod, it is entirely of Russian production and its average price, as declared by exporters in 1850, was 14*s.* 6*d.* per cwt. At Tashkend it sells at 28*s.* per cwt. Manufactures of steel such as needles, pen knives, large clasp knives, razors, scissors, and carpenters' and joiners' tools, are exported from Russia in large quantities.

The cutlery for Central Asia is prepared for the market with the usual view of cheapness, and the iron employed is necessarily inferior.

Razors and Knives are exported in considerable quanti-

ties to Tashkend. The razors are generally bought up at Nijni-Novgorod fair at 2*s.* 6*d.* per dozen, or about 5*d.* the pair. Razors of a better description are purchased at 3*s.* 6*d.* the dozen, but 5*s.* 1*d.* the dozen is the highest price ever given. The razors of Russia do not approach the English in quality.

Knives are articles of ornament as well as of use in Central Asia. The knives exported are never higher than 4½*d.* each ; the ordinary price of a two blade double-edged knife being 1¾*d.*, or 1*s.* 7¾*d.*, 1*s.* 9½*d.*, and 2*s.* 1*d.* per dozen. Most of these knives are purchased wholesale at the works at the low rate of 1*d.* each ; but, cheap as this may appear, it is still more surprising that Sheffield should be able to supply customers in India at the same rate.

The temper of English knives must always be superior to that of the cheap articles manufactured in Russia out of the commonest iron, and our manufacturers in hardware might study with advantage the extensive markets which they may obtain in Central Asia.

Needles.—Immense quantities of needles are yearly exported from Russia to Central Asia; they are sold at Nijni-Novgorod fair in packets of 4,000, some descriptions contain a less number. M. Tegoborski says the higher qualities cannot compete with the English. The ordinary sewing needles are divided into six sorts—the best, and Nos. 1 to 5 :—the last three numbers are purchased at Nijni-Novgorod at 9*s.*, 9*s.* 1*d.*, and 9*s.* 2*d.* per thousand. No. 2 at 9*s.* 5*d.* No. 1 at 9*s.* 7½*d.* ; and the best at 9*s.* 10¼*d.* At Tashkend, needles sell at 18*s.* and 21*s.* per packet, occasionally at double those prices. In 1849, fifty tons of needles were exported by Orenburg through Tashkend to Bokhara. The Bokhara traders are said to dispose of considerable quantities in Cabul.

At Tashkend, *Tin* fetches 5*l.* 12*s.* per cwt. ; *Spelter* fetches 5*l.* 12*s.* per cwt.

Specie.—The exportation of specie, in comparison with other articles of demand forms a remarkable and profitable item in the trade with Central Asia. The insufficiency of the rude metallic currency of the Khanats to supply the increasing demand of trade has raised the price of specie in Central Asia to a very high premium, so that the great drain which Russia experiences in gold, silver, and copper coins, is, in reality, a source of enormous profit. The balance of trade being very much against Russia, the

Asiatic receives more than one-third of his payment in cash, but at a considerable gain to Russia, as the Russian silver rouble passes for about 22 per cent. above its value at home, which is, of course, so much profit to the Russian purchaser of cotton and other produce.

The exportation of specie to Central Asia which has long been under the disadvantage of restrictive laws similar to those to which it was subjected in the overland trade with China, is at present in great part, if not altogether, relieved from those restrictions. Russian half Imperials, and silver roubles, Dutch ducats, and twenty franc pieces, are the coins chiefly exported to Central Asia; other foreign coins are used in much smaller proportion.

Tea.—The Central Asiatics principally consume green tea, which is brought to Kokand and Tashkend *viâ* Kashgar. Some of this tea finds its way into the Russian market, Russia sending in return small quantities of superior black teas for presents.

The prices given in M. Nebolsin's work are as follows:—

At Tashkend—

	s.	*d.*	*s.*	*d.*	
Green tea from Kashgar	2	6 to	2	11	per lb.
Brick tea from Kashgar or Fu-chai ..	1	0	1	8	„
Kyrkma Tchai or Kara Tchai of inferior quality	1	6	1	8	„

At Bokhara—

Green tea from Kashgar	2	$1\frac{1}{2}$		„
Ditto, superior quality	3	$2\frac{1}{4}$		„
Ditto from Russia	60	0	72	0 per box.
Yahak tea	4	3		per lb.
Black from Russia	2	$1\frac{1}{2}$	2	$1\frac{3}{4}$ „

At Khiva a tolerable quantity of black tea sells at from 4*s.* 5*d.* to 6*s.* $7\frac{1}{2}$*d.* per lb. Central Asia would, therefore, appear to be a favourable market for the teas of the Himalaya at 6*d.* per lb.

M. Gens, an authority often quoted by M. Nebolsin, wrote as follows in 1840:—

"The Bokharians bring to Orenburg the common black tea which they obtain from Chinese Turkestan, or rather from the town of Kashgar, whence it is conveyed by caravans to Bokhara, and there sold at a price not exceeding 1*s.* 10*d.* per lb., the duty, according to the Tariff of 1812, is 1*s.* $6\frac{1}{2}$*d.* more, so that with 1*d.* per lb. for extra expenses, one pound of tea may be said to cost the Bokha-

rian trader 3*s.* 7*d.*, and he sells it at 4*s.* 8¼*d.*, making a profit of 30 per cent.

"This tea is of pretty good quality, but being generally brought in bags is not equal to tea imported through Kiachta, which, being packed in boxes or chests covered with raw hides, retains its flavour and arrives in better order; but the low price at which it is sold will cause it to be in great demand when Russian merchants begin to frequent Bokhara."

Some idea may be formed of the valuable nature of the acquisitions Russia has lately made in the valley of the Syr, by the following extracts from a letter addressed by General Kryżanowski to the Minister of Finance, dated 23rd September, 1865, and in which he describes the actual condition of Russian Turkestan, and of its present capital, Tashkend:—

"The Orenburg Steppe," he says, "extending from the banks of the Oural to the Syr Daria, is peopled by nomadic Kirghese tribes, numbering about 1,000,000 souls, without a single fixed habitation. In the summer they wander with their flocks and herds over the mountain pastures, and in the winter they come down to the rivers. In South Turkestan, besides the Kirghese, who are the true aborigines of Central Asia, a race is found totally differing from them in habits and character, who inhabit the towns, and prefer commerce and trade to agriculture. These are the Sartes, or Tajiks, who form the chief portion of the population of the towns of Turkestan (Asret), Tchemkend, Tashkend, Kokand, and Bokhara, and all the other cities of Central Asia.

"The nomadic Kirghese prefer the rude articles of Asiatic manufacture to Russian goods; and in order to improve their taste, General Kryzanowski proposes to open at Moscow a permanent exhibition of articles suitable and necessary for the Kirghese. Some of the poorest of these nomads, those who have no flocks, engage themselves as shepherds, while others devote themselves to agriculture, a certain number of this class belonging to all the different tribes are settled on the banks of the Emba, the Syr Daria and their tributaries.

"Agriculture is extensively developed in the whole district between Fort No. 1 and Fort Peroffski, as well as in the neighbourhood of Asret Turkestan; it is still more so southward of Tashkend, and along the roads leading to

Khodjend and Chinas; in the latter place the fields belong chiefly to Sartes. The banks of the Emba to the north of the Forts No. 1 and Peroffski, and along the Rivers Kuvan Daria, and Djani Daria, as well as the valleys of the Arysch and the Kouram, are also well cultivated.

"In the province of Turkestan, as in the Orenburg Steppe, there are neither meadows nor gardens where there is no irrigation. The works undertaken by the Kirghese and the Sartes for the purposes of irrigation are enormous and naturally attract the admiration of all the Russians who know what the Steppes of Kherson, the Crimea, and other parts of South Russia, destitute of water, are like.

"Notwithstanding the intense heat in the valley of the Syr during the summer months, everything is preserved, thanks to this admirable system of irrigation, and the harvests each year are magnificent, wheat giving 70, barley 100, and millet 500 grains. The prices of cereals in the spring of 1865 were as follows:—A batman, 10½ poods (420 lbs. Russ), of wheat flour, costs 40, 42 or 45 tenga (9 roubles = 1*l.* 4*s.*), the same measure of millet, 5 roubles (13*s.* 4*d.*), of barley, 6 roubles (16*s.*). Before the arrival of the Russian troops the prices were still lower; a batman of wheat flour costing only 5 to 6 roubles (13*s.* 4*d.* to 16*s.*). At Fort No. 1 the price of wheat flour was 90 copecks (2*s.* 5*d.*) per pood of 40 lbs. Russ (36 lbs. English.) Formerly corn, flour, and other provisions for the army on the Syr had to be conveyed across the desert from Orenburg; this being no longer required an annual saving has thus been effected in the item of transport alone of 400,000 roubles.

"The tribute paid by the Kirghese of the Orenburg Steppe and the Syr Daria was fixed at 1 rouble 50 copecks per kibitka, or tent, which was originally raised in order to form a fund for introducing improvements in the Steppes and paying the employés; but this tribute is now paid into the Imperial Treasury.

"As yet we are very little acquainted with the zone of South Turkestan, the towns and large villages of which are alone known to us. In the same way the whole of the mountainous district, and a large portion of the plain situated between the mountains and the Syr Daria, as well as the basins of the Rivers Arysch and Tchirtchirk are *terra incognita* to us. We are, however, aware that the mountains contain coal, lead, and gold, and a good supply of

timber. The coal is found in the neighbourhood of Bertchominka, Bachetyk, and Nianiai, the first being 65 versts, the second 112 versts, and the third 115 versts, from Tashkend. Coal has also been found in the mountains of Karataousk. Gold dust is found near the banks of the Tchirtchirk, and in the small town of Tchinbailyk, where the natives have established rude placers and cradles. Gold nuggets of several drachms weight have also been found near the village of Birtchimoulla, about 65 versts from Tashkend, as well as iron of an excellent quality. The tows of Asret, Tchemkend, Tashkend, Chinaz, and others occupied by Russian troops are all alike, consisting of irregular narrow streets crossed by canals, which serve as aqueducts, presenting to the eye interminable lines of mud walls, inclosing gardens, within which the houses are concealed.

"These towns differ from each other only in size and the number of mosques and caravansarais they contain.

"Tashkend, with a population of from 80,000 to 100,000 souls has 700 mosques, 16 superior schools, and as many primary schools as there are mosques, 13 great caravansarais, which are always filled with travellers and caravans from every part of Asia, two bazaars and numerous shops. The city of Tashkend is provided with meat by the Kirghese subject to Russia, the corn comes from Tchemkend, Aoulié Ata, Navata, Khodjend, and Ouria Tepé, but chiefly from the Kirghese tribe Kourama, settled on the side of the Tchirtchirk, were it not for the country between that river and the Syr, Tashkend, indeed, could not exist.

"The products of Tashkend are cotton, dried fruits, an inferior description of silk, carpets, and paper, while, from Bokhara Tashkend receives cotton, prints, turbans, girdles, and khabats, or dressing gowns, silks, peltry, coarse cotton and hempen stuffs and carpets: from Russia, Tashkend imports in return sugar, honey, hardware, and articles of copper, such as tea-urns, padlocks, and copper in sheets; tobacco and snuff come from Kokand and Chinaz, and salt from Choulak-kurgan and Kamish-kurgan. Persia sends turquoises, pearls, and theriac; and India, strange to say, Chinese porcelain, besides indigo, pepper, and other spices: the chief trade of the Indians is, however, in gold and silver specie, which they lend at the usurious rates of 3 per cent. per week, and 60 per cent. per annum. English money is unknown at Tashkend, as the Indians exchange it at Cabul or Bokhara for the money of Kokand

and Bokhara. In the retail trade of Tashkend, Russian money passes everywhere, and the small silver coins, with the exception of the 15 copeck pieces, are preferred to the rouble pieces.

"The Tashkendians prefer the new silver roubles, and can hardly be persuaded to take coins of the reign of the Empress Catharine, on account of the female effigy they bear.

"Russian gold coins are not so much liked. Russian bank notes of 1 and 3 roubles pass freely, but those of a higher denomination are not taken.

"The importation of British goods, which is insignificant, consists chiefly of white and striped muslin, chintz of varied patterns, calico and muslin turbans, brown sugar, and sometimes gold and silver stuffs of great value, known in Asia by the name of 'kisukhab.'

"Tashkend imports from Kashgar blue nankeen, yellow cotton stuffs, 'maschron,' a mixed silk and cotton stuff used for dresses and coverlets, lynx skins, and white (so called astracan) lamb skins. The skins known in the trade as black astracan come from Karakoul, a little town of Bokhara. Latterly also a very large quantity of tea was imported from Kashgar; but the insurrection of the Dzoungani of last year has put a stop to the trade of China with Kashgar, and *Central Asia has had to go without tea.* Some of the enterprizing Tashkend merchants have, however, ordered large supplies from the fair of Irbit."

The population of the countries thus referred to by General Kryzanowski consists of 3,000,000 of nomad tribes, and 5,000,000 inhabiting the cities, towns, and villages of the three Khanats, all inveterate tea-drinkers; indeed, to judge from the description given of them by Vambéry, the Central Asiatics may be classed in this respect with the Chinese and the Russians. In his interesting work, already referred to, the enterprizing Hungarian traveller speaks of the tea bazaar at Bokhara, and refers continually to the tea-booths with their gigantic "samovars," or tea-urns, manufactured in Russia expressly for Bokhara, which, he says, are as big as beer barrels; he speaks of the market places through which he passed, every hour, and sometimes every half-hour, on his road from Bokhara to Samarcand, where the great Russian tea-kettles were ever on the boil; of the public place of recreation and the gardens of Karshi (fourteen German miles from Kerki, on the Amu Daria) where the steaming samovars are surrounded constantly by circles of customers two and

three deep; and he recounts his visit to the enthusiastic tea-dealer at Bokhara, a Chinese from Komul (a place on the high road from Aksu to Peking, forty stages from Kashgar), who had in his shop sixteen different kinds of tea, which he could distinguish by the touch. The teas, Vambéry adds, were of the following kinds:—

1. Kyrkma.
2. Akhbar.
3. Ak Kuruk.

These kinds, rarely seen in Central Asia and in China, are more used in Russia, Persia, and Europe.

4. Kara Tchai.
5. Sefet Tchai.

These two are sold like Chinese kynasta, pressed into the form of bricks: they are drunk only in the morning with cream and salt, and are very stimulating.

6. Shibaglu.
7. Gore Shibaglu.
8. Shivin.
9. Ifkellesi.
10. Bonge.
11. Poshun.
12. Pu-Tchai.
13. Tunstey.
14. Gulbuy.
15. Mishk-göz.
16. Lonka.

These are all green teas; none others are in favour in the north of China and in Central Asia. The last-named, Lonka, is regarded as the most precious; a single leaf suffices for a cup which equals two of ours. The purchaser first forms a judgment of the tea by tasting a leaf that has been already boiled. When the tea is good the leaf is extremely fine and soft.

Mr. P. B. Lords, writing on the subject of the prospects of the trade of India with Turkestan, says:—

"Tea is an article in the greatest request amongst the whole nation, and the consumption of which is only limited by their means of procuring it. The whole supply is at present brought by 'kafilas' from Kashgar and Yarkand (a journey of 25 days to Bokhara), *and the greater part of it is of a description inferior to any I have ever seen in India.*

"Small quantities of Banca tea, which is of a very fine

flavour, are brought, but the price is so extravagant as to put it beyond the reach of any but the Ameer and a few principal merchants.

"Zeracha, a tolerable green tea, sells at 2 rupees, or 4*s*. per lb.

"Competition is, therefore, fairly invited here, and as the taste for tea is not confined to the Uzbecks, but would doubtless extend to the Affghans were the article placed within their reach, this might be the commencement of a considerable increase to our already enormous tea trade.

"Some of the tea called 'banka tchai' also comes from Russia, but is extravagantly dear, costing as much as 100 rupees per seer (50 rupees, or 100*s*. per lb.)."

Here, therefore, is the market for the Himalaya teas, to which I have referred in the commencement of this portion of my Report—a market of 8,000,000 consumers, amongst whom the taste for tea has long been developed into a necessity, and who are now deprived of what has become to them a daily necessary of life; a market which is now open to the Indian cultivators under still more favourable conditions than those referred to by Mr. Lord, since all competition is at an end as regards China; while the importation from Irbit mentioned by General Kryzanowski cannot be taken into consideration, since, in addition to the charges weighing on the tea, which has travelled the enormous distance from the tea-growing provinces of China to Irbit, must be calculated the expense of the transport from that place to Tashkend, a distance of not less than 3,000 versts.

On the other hand, tea of the same description as that grown in China could be sent from the tea-plantations at Kangra, which are only 750 miles distant from Yarkand, to that city, where it would find a system of transport especially organized for the conveyance of tea to Central Asia, at a price which would render all competition from China impossible, even were the communications between that country and Central Asia re-established on the most favourable conditions.

The tea-plantations to which I refer, are more particularly those of the Western Himalayas.

The tea-plant was first found growing wild in Assam by Mr. Bruce, a magistrate at Tezpore, and by Dr. Griffith, a distinguished botanist, to whose researches the cultivation of that shrub in the upper districts of the Punjaub is greatly

indebted. The botanist Fortune was also employed by the Indian Government to bring plants and seeds from China, as well as Chinese labourers accustomed to the cultivation of tea-gardens. Extensive tea-plantations are now found in many places along the lower range of the Himalayas—in Dehra Doon, Kennaon, and Kurhwal, along the heights of Kangra, eleven stages from Umritsur, and on those of Murree above Rawal Pindee, which is seven stages from Peshawur.

An interesting letter from the "Times" correspondent in India, dated Dhurmsala, in the Himalaya, of October 20, 1866, contains the following observations on the actual condition and the prospects of the tea-growing districts of that country, and on the road connecting those districts with Eastern Turkestan:—

"From Kotzurh to Dhurmsala," says the writer, "the whole country, between the altitudes of 2,000 and 3,000 feet, is admirably adapted for the tea-plant. Here the pure Chinese shrub alone is cultivated, while in Assam the much larger and more fruitful indigenous plant is adopted. But although in Assam the produce is much larger, the climate is somewhat dangerous, and will continue to be so until the province is more cleared; the difficulty of importing labour into it threatens also to stint a thriving industry. In the Western Himalaya, on the other hand, labour is plentiful at present rates, and the climate is that of Southern Europe.

"The chief drawback to this cultivation is, however, *the distance from a sea-port*, and the absence of water-communication.

"One contrast strikes the visitor very forcibly: it is the superiority of the Western Himalayan planters and plantations over those of Assam. In the latter, speculation, and the roguery of speculators, have formed Companies on an unsound basis, which too often employ as their agents and subordinates men of untried character; but in Holta and Kangra the planters are generally retired officers, or men who work their own estates with their own capital.

"Amid the magnificent works originated by Lord Dalhousie, one of the most remarkable is the road projected through the Himalayas, from the plains of Hindustan to Central Asia. Led chiefly by engineering considerations, and without sufficient inquiry into the best trade-routes, his advisers determined to make the road along the Sutledj

as far as Chini, and ultimately to Shipki, in Thibet. To those who know what the Himalaya is, it will seem surprising that a fine road, from 7 to 12 feet wide, could have been cut in the face of the gigantic precipices along which it is carried; but the commercial advantages of this stupendous pathway, upon which a gig could be driven with safety for hundreds of miles to the very frontier of China, would have equalled its success as a triumph of engineering skill were it not that trade will not take this route. Had it followed the old local roads, by Kooloo and Laboul through Ladakh into Khotan and Yarkand, instead of going, as it now does, so far to the eastward, we should have commanded the trade of Central Asia."

The great drawback to the development of the tea-trade of the Himalaya (mentioned in this letter), viz., the distance of the tea-growing districts from a sea-port, would, however, disappear with the opening of the markets of Central Asia; the only obstacles to which appear to be the condition of the roads through the territory of Cashmere, and the suicidal commercial policy of its ruler the Maharajah, which is no less injurious to his own interests than to those of many branches of British industry.

The inconvenience to trade caused by this capricious feudatory of the British Government consists in the heavy transit, import, and export duties levied by him on goods entering his dominions; and in his arbitrary interference with the routes taken by commercial traffic.

Tea is one of the articles most affected by these restrictions, the duty levied on it amounting, *ad valorem*, to 78 per cent.

The transport of every description of tea is interdicted by the more convenient routes of Uknoor, Bhimbur, and Mozufurabad, and is forced to traverse Cashmere by the difficult passes leading to Jummoo. This is likewise the case with English cotton goods, chintzes of all descriptions, broadcloth, Punjaub silks, raw silk, brocade, sugar, sugar-candy, dyes, opium, madder, cochineal, sulphur, pepper, cinnamon, and other spices.

The duties levied on the following articles entering Cashmere amount *ad valorem*, on :—

	Per cent.		Per cent.
Cotton piece goods and long cloths	30	Indigo (Punjabee) ..	38
Cambric and linen.. ..	15	,, (Khoorga) ..	62
Muslin	8	Cochineal	9
Coloured muslin	10	Madder	104
Chintz and cotton velvet ..	13	Alum	206
Broad cloth	29	Raisins	193
Sugar candy	85	Figs	56
Sugar	126	Salt	14
Coarse sugar	100	Tobacco	99
Molasses	150	Cotton, raw, with seed ..	131
Pepper	56	,, clean, without seed	27
		Country cotton thread ..	37

The nature of the restrictions on traffic enforced by this native ruler may be judged of from the following statements addressed by officers employed in the north-western provinces to the Indian Government.

Colonel T. J. Montgomerie, writing in 1861, says: "From time immemorial there has always been a trade between Hindustan and Little Bokhara (Eastern Turkestan), its continued existence in spite of the great restrictions under which it is worked, and the difficult routes by which it is carried on is a proof that it possesses great vitality: it is a trade that ought to be developed by all legitimate means, and by freeing it from all restrictions as far as British and British protected territories are concerned. Yarkand, the chief town of Eastern Turkestan, is the point to be arrived at. This place is, as the crow flies, 390 miles distant from Jhelum, whereas the nearest point of the Caspian is 1,030 miles; any similar point in China is perhaps 3,000 miles distant, and is from Yarkand by the 30 marches across the Great Dessert of Gobi; consequently there is little doubt that the routes to Yarkand favour the trade with Hindustan.

"There are several routes from the Punjaub to Eastern Turkestan, but three only which are likely to be available for traffic: first, viâ Cashmere and Leh; secondly, viâ Mandi Kooloo, and Leh; thirdly, viâ Simla, Garo, and Radokh. The Cashmere route is either direct viâ Skardo, or by Ladakh; the Mandi road goes by Kooloo; and the Simla route either viâ Sultanpur, Kulu, and the Para Lacha Pass, or by the Parang La Pass; or it avoids Ladakh and the Maharajah's territory altogether, by Mandi, Rampur, and Western Thibet, traversing the Chinese territories; but all except perhaps the latter cross the Kara-Koram Pass. As to the merits of these routes, the most

direct is by Cashmere and Skardo, but it is not generally well adapted for traffic; the next, by Cashmere and Leh to Yarkand, is not only the shortest but the best and the cheapest route for traffic, were it not for the oppressive restrictions and exactions laid on commerce by the Maharajah.

"This road, between the plains and Leh, crosses the Himalayan range by a very remarkable depression of only 11,300 feet, and none of the passes on it exceed 13,300 feet in height; they are moreover open for at least 7 or 8 months in the year, and could be crossed at any season in fine weather; there is likewise between the plains and Leh but one, or, at the most, two halting places without a village in the vicinity, which in itself is a very great advantage.

"The next best route is from Mandi, reaching Leh by the Bara Lacha Pass; but there are 9 or 10 marches on this road over very bleak mountains without any village; the passes being from 16,200 to 18,100 feet above the sea, and for ten days the road is hardly ever below 15,000 feet; finally, as there are neither villages nor even Turkoman tents in this district, provisions for ten days have to be carried by traders both for men and cattle, which adds greatly to the expense of transport by this route.

"To the east of the Bara Lacha Pass there is no road well adapted for traffic with Eastern Turkestan, though at present, in order to avoid the duties at Ladakh some of the easterly passes are used to convey goods. If merchandize sent by the various routes from the Punjaub to Yarkand were freed from all excessive imposts and some slight improvement was made to the naturally good road, there would be every chance of commanding the greater part of the traffic of Eastern Turkestan as well as a portion of Western Turkestan, more especially that of Kokand and its cities.

"The distance from Umritsur (the great centre of the Punjaub) to Leh by the Cashmere route is 40 marches (515 miles), and by the Mandi route 41 marches (525 miles), over a much more difficult road.

"The hire of a mule from Umritsur to Sirinuggur (the capital of Cashmere) is about 12 rupees (24*s.*); from Umritsur to Leh 24 rupees (48*s.*), and from Umritsur to Yarkand 27 rupees (54*s.*); a mule load being 2 maunds or 160 lbs.; this would be about 4*d.* per lb. from Umritsur to Yarkand."

Mr. Melvill, Commissioner and Superintendent of

the Trans-Sutledj States, writes as follows in the month of July, 1861 :—

"English and Punjabee goods were formerly forwarded to Cashmere by the Bhimbur route, until the Maharajah interdicted trade from adopting any other than that by Jummoo ; no articles can be imported now to any town in British India from Cashmere, or through that country by a direct route ; they must be taken to the Custom-house which the Maharaja has established at Jummoo, where the prescribed duties are levied ; by this measure the cost of transit is considerably increased, and traders being exposed to the greatest inconvenience by detention, &c., are unwilling to engage in the import trade to British territory.

"The duties levied in Cashmere amount almost to prohibition, in consequence of which an enormous decrease has taken place in the trade between the Punjaub and Cashmere.

"The appointment of a British representative at Leh, in Ladakh, would be received by all the merchants engaged in trade with that country as an omen of great prosperity to them. At present the Yarkanders clothe themselves with Russian goods, our Manchester goods being debarred access to Eastern Turkestan by the miserable arrangements on the road through Ladakh. Were that route avoided and a line followed entirely through territory subject to the Chinese Government, there would at all events be a chance of a freer flow of trade ; there is, however, little prospect of any material improvement in the Ladakh route until the Maharajah is pinched by the contraction of the trade ; and, unless his agent at Ladakh (who seems to be the demon incarnate of oppression) is removed, no commerce can thrive in that country.

"The transit dues in Ladakh form another serious impediment to trade, as does also the monopoly established by the Maharajah of the shawl wool produced in Ladakh, as well as that coming from Yarkand."

Captain T. W. Mercer, writing from Kooloo, thus describes the route to Leh and Yarkand, viâ Kooloo and Lahoul :—

"The road through the hills from Kangra to the Rohtang Pass, which separate the small district of Lahoul from Kooloo, is in very good order and bridged throughout; the worst parts are in the native territory of Mandi, where

the advantage of level roads is not much appreciated, but the whole distance is quite practicable for laden mules.

"The Kooloo route is free from all imposts until it enters Ladakh, and life and property are perfectly secured until the boundary of British dominion, at Lingtee, is passed. After crossing the Rohtang Pass, which is an easy day's journey, and arriving at the foot of it on the northern side, the most serious obstacle in the whole road from Umritsur to Leh, is met in the passage of the Chundra (Chenab) at Koksur. The river is crossed by foot travellers over a frail suspension bridge, of brushwood ingeniously laid together, but which is quite impracticable for beasts of burden, except sheep and goats; the horses, oxen, and mules, sometimes swim across, but, as this is attended with considerable risk, the traders generally leave them and continue the journey with other ponies and mules which they find on the opposite bank; taking up those they have left behind on the return trip. The ponies of Lahoul and Ladakh, are cheap and hardy, numbers of them are usually left to graze on either side of the Chundra, at Koksur, where they find the richest pasture and require no looking after. The next difficulty is the Bara Lacha Pass, but this is one requiring only an exercise of patience, and trade is not impeded by it.

"The road through Ladakh is quite passable for laden animals, though it might be improved if the native officials, subordinate to the Cashmere Government, were disposed to do it. Beyond Ladakh, the Kara-Koram range of mountains presents the first real obstacle. The road is confined to a simple track, and is rendered dangerous for three or four stages by the lawless tribes which infest these hills, and which necessitates the union of caravans, accompanied by armed attendants. Beyond the Kara-Koram range, the road is across a level plain to Yarkand.

"Mules, ponies, and oxen are employed for conveying merchandize of great bulk and weight; but between Kangra and Ladakh, sheep and goats are much used for light burdens, especially in the rice trade between Kooloo and Ladakh. Flocks of these hardy little animals are daily to be met skipping over the rough and rocky roads, and up and down their precipitous sides, with 12 to 16 seers (24lbs. to 32lbs.), on their backs, and they travel, 10, 12, and even 15 miles a-day, without any apparent labour

or fatigue. They are used by the poorer classes because their food costs little or nothing; but the larger beasts of burden are preferred by those who can afford to keep them as they require less watching at night from the attacks of wild animals."

This is one of the routes by which tea would be conveyed from the Kangra district to Eastern Turkistan, if the trade were once opened; but I am informed by an English officer, who knows the country well, that there is a direct route from Kangra to Sirinuggur, of fourteen stages, four of which are at present difficult for laden animals, but which might without much trouble be rendered practicable for pack-horses and mules.

From Murree, which is the nearest tea district to Yarkand, the direct route would be by Skardo; but this, as before mentioned, is not considered suited to traffic. There is, however, a road by which laden mules reach Sirinuggur in thirteen days, viâ Kohala, Chakar and Oori, the distance being 85 kos, or about 150 miles; at present traders prefer the circuitous route by Peshawar, Cabul, Balkh, Bokhara, Kokand, and Kashgar to Yarkand, a distance of ninety-four marches.

The case would be very different, in the opinion of the Superintendent of the Peshawur division, if the road to the passes of the Ladakh were in our hands and rendered practicable throughout; were this the case, with freedom from transit dues, and entrepôts at Sirinuggur and Leh, all difficulties of the route would disappear, and merchandize would naturally turn to it and undersell that from Bokhara in the Yarkand market.

The chief obstructions which have led to the actual decrease of trade with Cashmere, consist, first, in the endeavours of the Maharajah to confine all import and export trade in Cashmere to the Jummoo, one of the most difficult and unpopular routes in the country. Second, in the heavy duties levied along the Maharajah's Customs line, and third, his attempts to secure the monopoly of trade for his own agents in Umritsur, Lahore, Noorpore, and all the larger trading towns in the Punjaub.

There are three good and comparatively easy routes from the Punjaub into Cashmere:—

1. By Mozufurabad, the easiest and most practicable for beasts of burden, the ascent being less severe than by any other route. The distance from Murree by Mozufu-

rabad to Sirinuggur is nine stages, from Sirinuggur to Leh, fifteen stages, and from Leh to Yarkand, twelve stages.

2. The "Bhimbur" route, the distance from Goojerat to Sirinuggur by this road is ten stages; it is an easy and very practicable route for laden ponies and mules.

3. The "Poonch" route, distance thirteen stages, or about 200 miles, from Goojerat to the capital of Cashmere; it is likewise available for ponies and mules.

The "Jummoo" route, a distance of twelve stages, or about 170 miles, is a bad and difficult road with very severe ascents; laden ponies travel along it only with extreme difficulty, the traffic being carried on chiefly by coolies.

These are the routes that would be available for the conveyance of tea from the plantations at Murree to Leh and Yarkand. The Kangra tea would reach Leh by the Umritsur routes already described.

From Leh to Yarkand there are two routes, one by the Shayook river and Kokiar, traversed in the cold weather, from November to February, and hence called "Zumistanee," and the other by Suser and Kilian, travelled in the hot weather, from July to October, and called "Tabistanee." Both join at the foot of the Kara Koram mountain pass (18,600 feet); after crossing which, they separate at a place called Muliksha or Aktagh (the fourth stage after the pass), whence they proceed to Yarkand in different directions.

According to the Report of the Superintendent at Rawul Pindee, the distance from that place (which is near Murree) to Sirinuggur is 134 miles, the cost per mule load of 2 maunds, or 160 lbs. for that journey is 104 rupees (208*s.*), or about 1*s.* 4*d.* per lb. The explanation of this heavy charge is, that it must be divided into two parts, *i.e.*, 8 rupees (16*s.*) for mule hire, and 96 rupees (192*s.*) for duty.

The cost to Leh, which is 296 miles further, would amount to only 132 rupees (264*s.*), because no duty is charged beyond the Maharajah's territories.

The real cost of transport for mule hire alone, therefore, between Sirinuggur and Leh, 296 miles, is 28 rupees (56*s.*) for the conveyance of 160 lbs.; or, for the whole distance from Rawul Pindee to Leh, 430 miles, 36 rupees (72*s.*), about 5*d.* per lb. From Leh to Yarkand is 323 miles at 41 rupees (82*s.*), which is about 6*d.* per lb., so that the price of the transport of 1 lb. of tea from Murree

to Yarkand would be nearly 11*d.* per lb. for mule hire alone.

The transport of merchandize by this route, without taking the duty into consideration, appears to be dearer than from Umritsur and Kangra to Leh.

If charged by weight, it is the same whether conveyed by coolies, mules, ponies, or oxen ; when mules are hired, the trader usually enters into a contract for the whole trip by the weight per maund. The transport of 3 maunds (240 lbs.) a pony load, costs from

	Rupees.	Sterling.
Umritsur to Leh..	22	44*s.*
Leh to Yarkand	33	66*s.*
Total	55	110*s.*

about 6*d.* per lb., or, according to Colonel Montgomerie, as stated above, about 4*d.* per lb.

From Yarkand to Kashgar there are five marches, cost per horse carrying 360 lbs. 12*s.* ; from Kashgar to Kokand, twelve marches, cost per horse load 37*s.*, total 49*s.* for 260 lbs., or about 2*d.* per lb.

By this route, therefore, a pound of tea could be conveyed from Kangra to Kokand at from 6*d.* to 8*d.* per lb.

Indian tea may be bought in London in bond at prices varying from 4*d.* and 6*d.* per lb. for the commonest description, up to 4*s.* and 5*s.* per lb. for fine flowery Pekoe; but I am informed, on the best authority, that of Messrs. Thomson, of Mincing-lane, that an excellent tea is grown, which costs 1*s.* 6*d.* per lb. on the plantations, which is worth 3*s.* 6*d.* per lb. in London. We may consider, therefore, that India tea of a common description could be sold in the markets of Central Asia at from 10*d.*, 1*s.*, to 1*s.* 2*d.* per lb. Tea of good quality, at 2*s.* to 2*s.* 2*d.* per lb., and of the most superior description at 4*s.* 6*d.* to 4*s.* 8*d.*, and 5*s.* 6*d.* to 5*s.* 8*d.* per lb.

I have shown that the commonest brick tea costs from 1*s.* to 1*s.* 8*d.* in the bazaars of Tashkend ; and Mr. Lords says, that the Kashgar tea consumed in Central Asia is inferior to any he has ever seen in India ; there can, therefore, be no doubt whatever, that the teas of the Himalaya, being both better and cheaper than those which the inhabitants of the Uzbeck Khanats have been accustomed to

receive from China, would be in great demand throughout Central Asia, if that market were open to them.

But it is possible that a still more extensive market than that of Central Asia may be obtained for the teas of the Himalaya, as will be seen from the following observations and queries that have been addressed to me by an English gentleman, who was formerly interested in the tea trade at St. Petersburgh :—

"What the consumption of tea in the vast Empire of Russia, with its 70,000,000 of inhabitants, may become eventually, it is impossible to conjecture ; but there is good reason to anticipate that, at no very distant period the present annual consumption of 30,000,000 to 35,000,000 lbs. will be doubled.

"Supposing, then, that Russia requires annually 60,000,000 lbs. of tea, it may be asked, which is the country that can send her the qualities best liked, and at the lowest price? This question resolves itself into two considerations: First, as to the qualities most in demand in Russia; and, secondly, as to the country from which it may be most advantageously procured.

"The reply to the first question will be found in the following list of teas most in request in the Moscow market, to which is annexed the present value there.

	s.	*d.*		*s.*	*d.*	
"Common congou	2	0	to	2	6	per lb.
Kaisow „	3	0		3	6	„
Souchong according to quality	3	0		3	3	„

Monings and Oopacks are also favourite qualities, their value varying considerably, say from 2*s.* to 4*s.*

"The consumption of flowery teas has rather decreased in Russia since the opening up of the trade, and the consequent more general introduction of the better class of black teas.

"The present value of flowery Pekoe and scented teas is very varied, ranging from 3*s.* to 10*s.*, 12*s.*, and even 15*s.* per lb. ; while yellow teas reach the fabulous prices of 30*s.* to 36*s.* per lb.

"These last-named teas bear of course only fancy prices, and but a very small quantity enters into consumption. There are, however, other denominations of tea, a list of which is given in the following price current of a Russian tea merchant at St. Petersburgh :—

"PRICE CURRENT of Teas at St. Petersburgh, 1867.
From the Tea Merchant, Ponamareff.

	Per Lb.		Per Lb.		
	Rs.	c.	£	s.	d.
Black teas—					
3rd sort	0	90	0	2	5
2nd sort	1	0	0	2	8
1st sort	1	20	0	3	2¼
Family teas—					
2nd sort	1	40	0	3	9
1st sort	1	60	0	4	3
Family teas, 1st quality—					
Nenkao	1	80	0	4	9½
Hummei, finest quality	2	0	0	5	4
Flowery teas—					
Medium	2	0	0	5	4
1st quality, family	2	40	0	6	5
Ditto	2	60	0	6	11
Flowery teas, Liansinie—					
4th sort	2	80	0	7	5½
3rd sort	3	0	0	8	0
2nd sort	3	50	0	9	4
1st sort	4	0	0	10	8
Finest Liansinie—					
Rose bouquet	5	0	0	13	4
Ditto	6	0	0	16	0
Finest bouquet	6	0	0	16	0
Yellow teas—					
1st quality	8	0	1	1	4
Finest with flower	10	0	1	6	8
Green teas—					
2nd quality	4	0	0	10	8
1st quality	6	0	0	16	0
Finest pearl	8	0	1	1	4
Flowery tea—					
In ½ lb. boxes	2	50	0	6	8
In 1 lb. boxes	5	0	0	13	4
In richly ornamented box ..	6	0	0	16	0
Yellow and green tea—					
In boxes same prices as above.	..		..		
Brick tea—					
1 brick of 1½ lb. ..	1	50	0	4	0

"The second question, as to the country from whence tea can be imported into Russia with the greatest advantage, applies naturally to the consideration of the possibility of obtaining an opening for Indian teas in the Russian market. This would be possible if tea can be grown on the slopes of the Himalaya equal in quality to good sweet congou, and sold in the Russian market at 2*s.* to 2*s.* 6*d.* per lb. But can this be done with a profit to the Indian

grower? A satisfactory answer will be given when a cheaper route is found to the Russian market than either the overland route by Kiachta or the sea route with transhipment at London; and here the question arises, at what price can Assam or Himalayan tea be grown equal in quality to the good black teas of China? But of this I have no means of forming an opinion.

"The best black teas can be bought at Foo-chow, Hankow, and Shanghae, at 8*d.* to 10*d.* per lb., the freight with transhipment, &c., will be as follows, say:—

	s.	*d.*	
First cost of good black tea	0	10	per lb.
Freight to London	0	3	„
Duty, Custom-house charges..	1	0	„
Carriage to Moscow	0	2	„
	2	3	„

"The same quality of tea delivered at Kiachta, costs the Maimatchin trader, say:—

	s.	*d.*	
Cost delivered at Kiachta	1	5	per lb.
Duty	0	5	„
Carriage to Moscow	0	8	„
	2	6	„

"Thus the trade by sea can place the tea in the consuming market at a cheaper rate than the overland route. Nevertheless, there is still a strong predilection in favour of the teas imported by the land route, and the difference in the duty of about 7*d.* per lb. enables the Kiachta traders to compete with the European importation by sea."

The present disorganized state of affairs in Eastern Turkistan puts all traffic between the tea-growing districts of the Himalaya, by Yarkand, Kashgar, and Kokand out of the question; though that route, continued along the Syr Daria and the Caspian, may at no great distance of time become the most favourable one for traffic between India and Russia; and although there is no doubt that tea can be grown for 8*d.* and 10*d.* per lb. in the Himalaya equal to the quality of Chinese tea in general use in Russia, it is evident that, owing to the unfavourable conditions under which trade is carried on through the territories under the jurisdiction of the Maharajah of Cashmere, the cost of transport to the Syr Daria from the Punjaub is too high to render it possible to convey tea to Russia with a

profit to the grower, by that route, at present. But where trade is free from those restrictions, such a traffic not only does not appear out of the question, or impossible, in spite of the apparent obstacles in its way, but actually exists between India and Russia, though as yet it has not been used for the transport of tea.

In my Report on the Cotton Trade of Russia, published in the "Blue Book" of 1865, I had occasion to show that the cost of 1 lb. of merchandize from Peshawur to Bokhara is $2\frac{1}{2}d.$, and the expense of the further transport from Bokhara to Moscow is $5d.$, making a total of $7\frac{1}{2}d.$ per lb. for the transport from Peshawur to Moscow. Taking the price of the Himalayan tea on the plantations at $8d.$ to $10d.$ per lb., for which a quality may be had equal, if not superior, to the tea of general consumption in Russia, the price of a pound of Indian tea at the Russian capital would be $1s.$ $3d.$ to $1s.$ $5d.$, making, with the addition of $1s.$ for duty and Custom-house charges, $2s.$ $3d.$ to $2s.$ $5d.$ per lb.; while the inferior descriptions of tea, the cost of which, at the place of growth, I will put at from $4d.$ to $6d.$ per lb., could be sold at Moscow, duty, &c., included, at $1s.$ $11d.$ to $2s.$ $1d.$ per lb. But in the bazaars of Bokhara the Indian tea, costing $8d.$ and $10d.$ at the place of production, could be sold at $10\frac{1}{2}d.$ and $1s.$ $0\frac{1}{2}d.$ per lb., while the inferior descriptions would not cost more than $6\frac{1}{2}d.$ and $8\frac{1}{2}d.$ per lb.

There can be no doubt, therefore, that at the present moment the inhabitants of Central Asia, at all events, may be supplied with a better class of tea than they have hitherto used, at a much cheaper rate than that which they have been accustomed to give, by an old established route requiring no other organization than that which has existed for many years; and that by the same route, equally well known to Russian merchants, Indian tea may be conveyed to Moscow.

I have shown in the first part of this Report that the very commonest description of Chinese tea, of the third growth, conveyed by the Kiachta route to Moscow, costs $2s.$ $2d.$ per lb.; and the English gentleman, whose observations I have above quoted, calculates that a better description of tea, which is much used in Russia, costs by that route $2s.$ $6d.$ per lb; the Indian tea, therefore, of either quality conveyed from Peshawur to Moscow would cost from $1d.$ to $2d.$ cheaper. It could not, however, compete

with Chinese tea conveyed by sea either from London to St. Petersburgh, which costs 1*s.* 8½*d.* per lb., nor with that imported through Königsberg at 1*s.* 8*d.*, and still less with that which is brought in Hamburgh vessels from China, and conveyed by rail through Königsberg to St. Petersburgh and Moscow at 1*s.* 5¼*d.* per lb. While, therefore, the caravan route from Peshawur would serve admirably for the supply of the wants of the inhabitants of Central Asia, it would not be available for the transport of Indian tea to Russia.

But there is another, better, and quicker route, one that is partially in use, and which will be shortly much improved, by which the tea of the Himalaya may be conveyed from Peshawur to Nijni-Novgorod at a cheaper rate; I refer to the route by the Amu Daria, the Caspian and the Volga, along which the transport of 1 lb. of tea may be thus estimated, the calculations being derived from Indian and Russian sources.

According to data furnished by Mr. Davies, it appears that the hire of a camel carrying 5 maunds (400 lbs) from—

	Rupees.	Sterling.
		s.
Peshawur to Cabul, 11 marches, is ..	18	36
Cabul to Balkh, 23 marches	14	28
	32	64

Or from—

	d.	
Peshawur to Balkh	2	per lb.
Balkh to Termes on the Amu, 2 marches ..	0¼	„
Termes to Chardjui, 2*s.* 4*d.* per cwt.	0¼	„
Chardjui to Urgendji, „	0¼	„
Urgendji to Krasnovodsk on the Caspian at 10 copecks per pood	0$\frac{1}{16}$	„
Krasnovodsk to Astracan	0⅛	„
Astracan to Nijni-Novgorod	0⅛	„
Total from Peshawur to Nijni	4$\frac{1}{16}$	„

M. Ivanew, who visited Mangyschlak in 1846, states that, while the transport of goods from Khiva to Nijni-Novgorod, by Orenburg, costs 1½ silver roubles per pood, that from Khiva to Nijni, viâ Novo Petrovsk, the Caspian and the Volga costs only 50 copecks per pood (or about

¼*d.* per lb.); he mentions, also, that when he was staying at Novo Petrovsk the price of transport from Khiva to that place and back was only 30 copecks silver per pood.

The above calculation is also borne out by Mr. Boutykyn, the author of a memoir on the trade of the Caspian: "This route," he says, "offers the advantage of 2,500 versts of water carriage from Nijni to Krasnovodsk, to be accomplished in eighteen days, at a freight of 50 copecks per pood. The road from the Caspian to the Amu Daria is only 400 versts, and for this distance the freight should not exceed 25 copecks per pood; then by the navigable waters of Amu it is a distance of 350 versts to Chardjui, on the road to Bokhara."

The cost of transport between Urgendi and Chardjui is, according to M. Nebolsin, 2*s.* 4*d.* per cwt.; that from Chardjui to Termes may be a trifle more; while the distance from Termes to Balkh, which I have reckoned at two marches, is generally performed in one.

Putting the cost of transport from Peshawur to Nijni at 5*d.* per lb., the prices of Indian tea, therefore, delivered at Nijni by this route would be, duty and all expenses paid, for the inferior kinds above mentioned, 1*s.* 8*d.* to 1*s.* 10*d.* per lb.; for a better description, like that in general use in Russia, 2*s.* to 2*s.* 2*d.* per lb.; while for the quality which costs 1*s.* 6*d.* at the place of produce, and which in London would be worth 3*s.* 6*d.*, and if conveyed thence to Moscow would cost 4*s.* 8*d.* per lb., the price delivered at Nijni by this route would be 2*s.* 10*d.* per lb.

The cost of the conveyance of the inferior descriptions would, however, still be a trifle dearer than that of Chinese tea conveyed by sea and rail to Moscow; but in my desire not to exaggerate, I have rather understated the case of the Indian tea; for it is evident that if an inferior quality of Himalayan tea can be purchased in London for 4*d.* per lb., which is the lowest figure I have taken in this calculation, it can be had for less on the plantations.

On the other hand, there can be no doubt that a superior description of Indian tea can be sold in the Russian market with a considerable profit to the Indian grower when conveyed by this route.

From the Memoir drawn up by M. Boutykyn in 1865, it appears that the chief drawback to the route between the Caspian and the Amu is that the territory traversed by it is inhabited by predatory Turcoman tribes, with whom

as yet Russia has no settled commercial relations. There is, however, reason to believe that such relations may be established by inducing the Turkmen to join in the lucrative fishing business established and to be established on different points of the Eastern coast of the Caspian, as well as in the caravan trade with Khiva.

With this view it is proposed to erect factories on the coast for curing fish and obtaining fish-oil, as well as for making tallow from sheep's fat.

It is calculated that these operations might be commenced this year; and for the three following years it is proposed to keep up active and constant communications with the basin of the Amu Daria, establishing good wells along the route, and thereby attracting the Turcoman tribes to settle pasture grounds at various points on the road.

As a convenient line for this purpose, the ancient bed of the Amu has been selected, where there is pasturage for cattle, and good water, as, for instance, near the Lake of Kul-Deria. Instead, also, of the slow conveyance by camels hitherto employed, a cart road, and even a tramway, has been projected.

It is known also from positive data that coal is to be found in the Krasnovodsk or Balkan range at this point of the Caspian coast, so that a railway across this desert may not be an impossibility at some future time.

But these suggestions, if considered feasible by this route, must be still more so by the route of the Syr Daria, with steam-vessels already plying, though not as yet for traffic, on the River and the Sea of Aral; and only half the distance of desert to be traversed by cart-road, tramway, or railroad between the Aral and the Caspian.

In order to show that the trade on the Eastern coast of the Caspian offers a prospect of profit to those who may embark in it, M. Boutykyn makes the following calculations.

The Turkmen, he says, obtain from the Persians a sack of flour for the equivalent of 5 sheep, or 80 poods of salt. Estimating the value of a sheep at 2 roubles 50 copecks, and one pood of salt at its actual saleable price in the Bay of Asterabad, at 15 copecks, the price of flour in the Turcoman market will be 12 roubles per sack or "kool."

The salt sold by the Turkmen at 15 copecks the pood is white, and of a far higher quality than that which fetches

65 copecks per pood in Russia. In the same way a sheep in the worst condition does not cost less in the Astracan market than 5 roubles: consequently a large profit is to be made in salting fish and mutton alone.

Again, 2,000 sacks of flour will produce, in exchange, goods to the value of 20,000 roubles in the Turcoman market, which goods when sold in Russia, will produce, from the above difference in value, not less than 30,000 roubles.

The profit to be obtained from the exchange of merchandize may be estimated by the difference in the prices of the various articles in the Russian and in the native markets, as for instance—

	Value in —		
	Russian Markets.	Turcoman Markets.	Khiva.
	Rs. c.	Rs. c.	Rs. c.
Copper .. per pood	7 0	12 0	19 0
Iron .. . „	1 20	3 0	7 0
Iron castings .. „	0 80	1 60	2 60
Steel .. .. „	6 0	12 0	20 0

Cotton, silk, and velvet fabrics are 50 per cent. dearer than in Russia; porcelain, 300 per cent.; common cloth, 100 per cent.; writing paper and glass, 100 per cent. dearer.

NATIVE MERCHANDIZE.

	In Asia.	In Russia.
	Rs. c.	Rs. c.
Cotton, raw	6 0	18 0
„ twist	7 0	25 0
Silk, raw	60 to 89	150 0
Wool	2 0	7 0
Sheepskins	0 40	1 50

On the basis of those comparative Tables the following calculations are made by M. Boutykyn of what may be obtained for 10,000 poods weight of metal, manufactures, and other merchandize:—8,000 roubles worth of metals and manufactured goods will fetch in the Asiatic markets by barter, goods to the value of not less than 20,000

roubles, the sale of which in Russia would realize 40,000 roubles.

Various other merchandize included in the amount above mentioned will purchase goods to the value of 12,000 roubles, which, when sold in Russia, would fetch 20,000 roubles: so that on 20,000 roubles a wholesale profit would be made of 60,000 roubles.

In the absence of actual facts derived from experience, the fisheries on the eastern coast of the Caspian are not included in these calculations.

The result of the fisheries at Baku, on the opposite shore of the Caspian, and those of Novo Petrovsk, which embrace only twenty-five miles of coast, may, however, give some idea of the nature of the business that may be carried on at Krasnovodsk.

At the Baku fishery in 1862, 16,423 red fish ("sevringa," or stellated sturgeon) were caught, which gave 49 poods of caviare, 85 poods of isinglass, and 91 poods of "viziga," a gelatinous substance procured from the dried spinal nerve of the sterlet, &c., and which is in great request among the Russians.

The Novo Petrovsk fishermen took, in 1858, 5,162 red fish, from which they obtained 7 poods of caviare, 50 poods of isinglass, and 60 poods of "viziga," which represent a handsome profit.

On the existence of coal in the mountains of Krasnovodsk and Balkan, the following calculations are based:—

The Caspian flotilla and the Caucasus and Mercury Company's steam-vessels require 1,000,000 poods (36,000,000 lbs.) of coal annually. If the wood fuel used by the Volga steamers were replaced by the coal, they would require a yearly supply of 15,000,000 poods. If instead of paying 30 copecks per pood for anthracite, the owners of steamers could obtain coal at 20 copecks per pood, the use of wood would be discontinued, under these circumstances an annual supply of 7,000,000 poods of coal would be required; but in order that it should not exceed the above-named price, it must be placed for sale on the shores of Krasnovodsk Bay at a rate not higher than 10 copecks per pood, *i. e.*, 3 copecks for the cost of transport from the pits to Astracan, and from Astracan to the wharves on the Volga up to Kazan on an average at 7 copecks per pood.

The value of the coal on the spot, that is, the cost of

working the pits and conveying the coal to the shore cannot be more than 5 copecks; the remaining 5 copecks per pood represent, therefore, a clear profit, which, in the proportion of the demand on the Caspian, will return 50,000 roubles on a capital of that amount, or 100 per cent.

In thus following the course of Russian trade from the confines of Siberia through Central Asia to the Caspian, it is impossible not to be struck with the perseverance with which Russia is vanquishing and clearing away the obstacles to commerce in those hitherto almost unapproachable regions; and it becomes evident that while serving her own commercial interests at a considerable cost of life and treasure, she is in reality opening a way for Anglo-Indian trade through Central Asia to Russia. It behoves us, therefore, to inquire whether we have made any preparations for taking our share of the commercial profits that will shortly be offered to us, and whether, on our side, we have been employed, as pioneers of commerce, in an equally active manner? To these questions, I fear no satisfactory answer can be given, and we certainly cannot be charged with too great inquisitiveness into the affairs of our neighbours; for although the position of our provinces in the north, the north-west and north-east of India is so admirably adapted for the cultivation of an intimate commercial acquaintance and connection with Central Asia on the one hand, and with China on the other, we appear as yet to have taken very little advantage of it; and, owing in great part to the lamentable obstacles to traffic in the territories subjected to the Maharajah of Cashmere, we know little more of the real condition of Eastern and Western Turkestan than we do of the territory of our neighbours east of the Brahmapootra and the Irawaddy; for although it is reported that since 1865 the people of Kashgar and Yarkand have revolted against the Chinese authorities, we do not know for certain who is in actual possession of the cities of Eastern Turkestan, nor how many of them have been abandoned by the Chinese. On the other hand, the upper course of the Brahmapootra is still unexplored, nor is it known, as far as I am aware, whether any connection, or means of connection, from it exists on the west with the Sampu River, which runs through Tibet, and on the east with the Yang-tze-kiang by its great tributary, the Kincha; though apparently these great Indian and Chinese water

systems are separated from each other by a distance of barely 100 miles. An expedition is said, however, to have been undertaken lately in that direction, and, in 1861, a party under Colonel Sarrel, which proceeded up the Yang-tze-kiang with the object of penetrating by that route into Tibet and India, succeeded in reaching in a steamer the town of Pingshan in the Department of Ichanfoo, Province of Sze-chuen, in north latitude 28° 20′ and east latitude 104° 5′; that place being 1,800 miles from the sea, and within 300 miles of Tibet. With regard to the routes from India to Chinese Turkestan, it is stated in an interesting article of the "Quarterly Review" of October 1866, as the opinion of Mr. Johnson, a distinguished geographical authority, that the direct line, which in future years will become the high road of traffic, conducts from Aksú along the river to Khotan, and thence ascending the mountains, either by the Sauju or the Gangi-devan Pass, debouches upon Leh. The passes of the Kuen-luen on this track are not more difficult than the Karakoram defile, while the road distance from Khotan to Leh is very considerably less than that to the same place from Yarkand; Leh, moreover, is much more conveniently situated than Cashmere for commerce with Northern India. If it be true, indeed, according to information suplied to Mr. Johnson at Khoten, that by proceeding 70 or 80 miles to the south-east, the Kuen-luen Mountains may be turned, and wheeled carriages can thus pass along an elevated table land by Rodokh and Gardakh to the immediate back of the Himalayan range, we may expect in due time that the great Hindustan road will be prolonged from the Niti Pass, so as to open out upon the uplands; a direct line of traffic being thus secured with Tartary, independent of the difficulties, political and geographical, attached to the old route by Cashmere and Ladakh.

According to Colonel Gardiner, the true road from Northern India to Yarkand, as well as to the valley of the Oxus, is viâ the Swat and Chitral Valleys.

The route by Bajour and the Upper Kuner Valleys, though very difficult, is the one followed by the Kokand Envoy in 1854.

With reference, however, to the actual state of traffic between the Punjaub and Yarkand, and in explanation of the routes, by which I conceive the tea of the Himalaya would reach that city, I subjoin the following itineraries

from Muree and Kangra to Leh, and from Leh to Yarkand.

From Muree to Sirinuggur in Cashmere.

From Rawulpindre to Muree is a distance of 40 miles.

	Miles.	
Muree to—		
Dewul, Fort ..	11	
Gohalim Ferry ..	9	Cross the Jhelum.
Dunna	6	Steep ascent.
Maira	7	
Chukar	6	
Hutthian	10	
Chukotee	15	
Ooree	16	
Noushera	14	
Bara Moola	9	Another staging place between Ooree and Bara Moola, called Booniar, distance not known.
Puttum	14	
Sirinuggur	17	
Total from Rawul Pindee	174	
From Muree ..	134	

The road from Sirinuggur traverses nearly the whole extent of Ladakh from west to east, from the Seoji La at the head of the Drâs River to Leh. From the Cashmerian Pass it follows the course of the Drâs River to its junction with the Sooroo River, up which it proceeds as far as Kargyil. From thence it ascends the Purik Valley, past the fort and town of Paskyum (Pooshkum) as far as Waka (Wuhka), where it leaves the Waka River and crosses the Namyika Pass (13,000 feet) to the bed of the Kanji River. Thence over the Photo La (Futoo La), an easy pass (13,240 feet) to the village of Lama Yurru, from which it follows the course of the Waula-chu to its junction with the Indus, below the bridge of Khallach (Khulchee), where it crosses the river to its right bank. From this point it ascends the Indus, past the villages of Noorla, Saspul Bazzo, and Nyimo, to Patik, where it leaves the river and turns to the north-east for a few miles to the city of Leh. The whole distance from Sirinuggur to Leh is 228 miles.

Major Cunningham, in his work on Ladakh, says, "I have travelled this road myself, and I can vouch for its being one of the most excellent and easy routes to be

found throughout the Alpine Punjaub. It is passable from March till November, when it is closed by the vast masses of snow that accumulate on the Cashmere side of Seoji La (Zoj La), and which render the passage dangerous both in March and April as well as in November. The greater portion of this road, which lies in Ladakh, was made by Zorowar Singh, after the conquest of the country in 1834. The large bridge over the Indus at Khallach (Khulchee), as well as the smaller bridges on this road over the Waula, Kanji, Waka, Sooroo, and Drâs Rivers, were all built by the energetic invaders, who, knowing the value of good communications, have since kept them in excellent repair. No road can well be worse than the few marches on the Cashmerian side of the pass, which are impassable for a mounted traveller." "This is the most frequented of all the roads into Ladakh, with perhaps the single exception of the northern line from Yarkand to Leh."

Route from Sirinuggur to Leh.

Stages.	Names of Places.	Distance in Miles.	Remarks.
1	Gandarbal ..	9¾	Left bank of Sindh river. A large village on the border of the Cashmere valley. Custom-house. Good level road.
2	Kangan ..	9⅝	Right bank ditto. Between Kangan and Gandarbal there is a large village, in which travellers sometimes put up, called Noonur.
3	Surbara ..	9⅝	Right ditto. Between this and No. 4 a large village, Goondsir Singh, also a halting place.
4	Gagangir ..	10⅝	Right ditto. A small village on the slope of the Gagangir hill. Road stony, impassable for a mounted traveller. Custom-house or choukee.
5	Sonamarg ..	7⅛	Right ditto. A village in a valley full of flowers and verdure.
6	Baltal	8⅜	Ditto. Foot of Pass Zoj La. No habitation: a hut for travellers.
7	Maten ..	15⅞	Cross the Zoj La Pass, 11,300 feet, covered with perpetual snow.
8	Dras	11⅛	Left bank of Dras river. A fort.
9	Jasgund ..	7⅚	On the left bank (opposite).
10	Kharbu ..	12⅛	On the right bank, ditto. Ascend the Khurboo Pass.

Stages.	Names of Places.	Distance in Miles.	Remarks.
11	Kargyil ..	11¾	At junction of Waka and Sooroo rivers. A fort. A bridge over the Sooroo river.
12	Dok	11⅜	Left bank of Waka river. A large village. Between Kurgil and Moolboo or Molbil (13) is a village called Shurghool, where travellers put up.
13	Molbil.. ..	8¾	Right ditto.
14	Charak ..	7½	Cross the Namyiha Pass. (Shushla, name of the mountain). Charak, or ascent up the pass. Tukchee, a halting place between Charak and Hesku.
16	Lama Yooroo ..	9	Cross the Photo La Pass. Abode of Lamas, and monastery held in much reverence by the Bhootees.
17	Khallach (Khulchee)	5	Cross the Indus by bridge, A large village. Thana and fort. Customs post.
18	Noorla ..	8⅛	Right bank of Indus. A large village on the slope of the Noorla hill.
19	Hemistokpo ..	8⅝	Ditto. Abode of a Lama.
20	Saspul.. ..	9⅝	Ditto. A large village in the Saspul valley.
21	Bazgo	8	Ditto. A large village in a fertile valley, formerly the seat of the Ladakh Government before the invasion of Ladakh by the Kilmaks (Sookpas) in 1686. Nyeemo, a large village between Nos. 21 and 22.
22	Tharoo ..	11¼	A small village.
23	Leh	11¾	Capital of Ladakh.
	Total ..	228	

Route from Kangra to Leh.

From Umritsur to Kangra, 11 stages, 129 miles.

	Miles.	
Kangra to—		
Buwarna	17	
Baignath	13	
Hureebagh	16	
Sairee	15	There is also a more direct route to Kumad.
Mundee	12	3,006 feet. Cross the Bias river.
Kumad	10	Cross the Bias and tributary.
Bajoura	15	Cross the Tiri Pass.

	Miles.	
Kangra to—		
Soottanpoor.. ..	11	4,092 feet.
Nugur	14	
Jugut Sak	9	
Phookcheen.. ..	14	13,300 feet. Rotang Pass.
Koksur	19	Cross Rotang Pass and the Chundra River by a rope bridge; difficulty about crossing ponies.
Seesoo	13	
Gundluk	11	
Khurdoong	12	Left bank of Bhaga. Road narrow but safe.
Kolung	13	Ditto.
Darcha	11	
Mangba	18	16,221 feet. Bara Lacha Pass, generally covered with snow, though not deep.
Kilang	16	Cross Bara Lacha Pass.
Churpa	10	
Sumdo	14	
Sumgal	18	17,000 feet at foot of Pass. Cross Lung Lacha Pass to river.
Morecha	10	Pond of fresh water.
Rookcheen	8	Generally a Tartar or Bhotee camp.
Dubring	15	Ditto. The nearer the Thuglunglah the better.
Gya	17	18,042 feet. Cross the Thuglung Pass.
Oogshee	15	
Marchulung. ..	9	Attabagh, or Bagh beyond Atta.
Chuchot	11	Golabagh.
Leh	10	11,278 feet. Cross the Indus by bridge.
Total from Umritsur.	525	
From Kangra ..	396	

From Leh to Yarkand.

The Zuimstance route, by the valley of the Shayook River, and the Choukee of Kokiar.

No. of Stage.	Names of Places.	Distance in Kos.	
1	From Leh to Suboo	6	A village at the foot of the Digur La Pass. Road good.
2	Digur.. ..	8	A village beyond the Digur La, a difficult mountain pass; the summit is covered with perpetual snow; road never closed. Ascent steep for about a kos, descent easier for about 4 kos.

No. of Stage.	Names of Places.	Distance in Kos.	
3	Ugham ..	5	A small hamlet on the left bank of the Shayook river. From this place to Moorghai, No. 12, the road runs up the valley of the Shayook, winding along the stream which is crossed some twenty-four times between these two places. The river is frozen over in winter beyond Lamakyent (No. 6) in the months of December, January, and February, when people travel over the ice. The bed of the river is sandy or gravelly. Grass and fuel in plenty all the way. No habitation on the road from this to Khulustan (No. 30A) excepting Lamakyent (No. 6) and the tents of the pastoral tribes between Nos 27 and 30. Caravans take provisions for their onward journey from this place.
4	Pukra . ..	5	A halting place. A spring of water.
5	Chunchak ..	8	Ditto, ditto.
6	Lamakyent ..	4	A village of 5 houses. Travellers carry provisions with them from this place also for their onward journey as far as Khulustan (No. 30A).
7	Choong-jungal ..	10	A fine pasture ground where people of the surrounding country graze their flocks of sheep, goats, yaks, and horses. At a point on the road called Changthang-jilgu, 2 kos further on from Choong-jungul, the Chung-chinmo stream from the north joins the Shayook river, and a road strikes off north-east towards Rudokh and Chanthan by Choomoortee.
8	Doongvulak ..	12	A halting place. Between Choongjungul and Doongvulak, 2 kos from Changthang-jilga, is a halting place called Kupturkhana.
9	Mundurlik ..	10	A halting place. An old fort called Yoorgoolook. Little or no snow falls on the portion of the road from Uhgam to this place (Mundurlik). Further on it continually snows during winter as far as Brungsa, but the road is never closed.
10	Kootulik ..	8	A halting place. A spring of water called Boolak. Yartuvee, another halting place, about 2 kos from Mundurlik. A stream called Karajilgha joins the Shayook near Yartuvee.

No. of Stage.	Names of Places.	Distance in Kos.	
11	Sooltan Chooskoon	10	A halting place. Road gravelly.
12	Duhn-i-Moorghee	12	Ditto, ditto, Another halting place called Kuratagh on the road, about 5 kos from Sooltan Chooskoon. The River Shayook is left at Duhn-i-Moorghee, and the road ascends up in a north-easterly direction towards the Karakoram Pass in a narrow valley.
13	Boolak-i-Moorghee	8	A halting place. A spring of sweet water; grass and fuel in abundance. Another halting place called Choongtash, about 7 kos from Duhn-i-Moorghee.
14	Boorsee ..	12	Boorsee is a thick grass which is used for fuel. Country full of boorsee, hence the name of this halting place. Three steep and difficult passes are crossed between Boolak and Boorsee. The passes are called "Kia," a Turki word meaning "pain." Grass and fuel are not forthcoming at the following stages as far as Aktagh. Travellers carry boorsee from this to use as fuel on this portion of the road.
15	Kizil Ungoor ..	8	Road in a Dara between high cliffs. Here commences the ascent to the Dubsan Maidan, an extensive table-land or plateau about 12 kos broad. Several streams run across this plain which dry up in winter. There is no vegetation, no grass, no fuel. The road through the Maidan is gravelly.
16	Doulutbegooldee .	12	Across the Maidan-i-Dubsan, from which the road descends to this place over an easy slope for about 4 kos. Doulutbegooldee is a halting place at the base of the Karakoram Pass, through which the Karakoram stream comes down to this place, and thence taking a south-westerly direction, joins the Shayook at Yupchan.
	Chaigoshjilgha ..	4	In the pass. The ascent to the pass commences at Doulutbegooldie, along the Karakoram stream. At this place travellers stop to drink tea—hence its name.

No. of Stage.	Names of Places.	Distance in Kos.	
	Summit of the Karakoram Pass	2	Ascent gradual. Near this point rise three streams; one runs down to the west and south, the second to the south, and the third to the north-east. The two first join at Yupchan and fall into the Shayook river; the third is the source of the Yarkand river. Snow in winter only over the pass. Road never closed.
	Bultee Brungsa	4	A place on the slope of the pass where the Bultees (Baltis), who carry their loads on their own backs, halt for the night — hence the name "Bultee Brungsa," resting place of the Bultees. The road lies along the Yarkand stream.
17	Brungsa ..	2	Halting place at the foot of the Karakoram Pass; descent gradual and easy along the Yarkand stream. The pass is throughout practicable for laden horses.
	Kizil-tagh (or Red Mountain)	4	The road from Brungsa to Koolunooldee (No. 24) lies in a valley along the Yarkand stream. Kizil-tagh a halting place. A copper mine close by; it is not worked.
	Chadurtash ..	1	A halting place. A road strikes off here towards the Karakash river which leads to Elchee, capital of Khotan.
18	Wuhabjilgha ..	3	A halting place.
	Neza-tash ..	2	A large stone of conical form, about 20 yards in height, to the left of the road.
19	Mulikshah ..	6	Halting place. Several springs of sweet water. Some pasture ground.
	Aktagh ..	½	From Brungsa to Aktagh the valley, between two high snow-clad cliffs which shoot up from the Karakoram range, is wide and open, sloping down to the north. No vegetation, grass, or fuel excepting some brushwood at Chadurtash. Road good. Little snow in winter on the line of road. At Aktagh the Zamistanee and the Tabistanee roads separate; the former proceeds down to the north-west along the Yarkand stream, and the latter to the north-east by Soojet. The road from Aktagh to Koolunuldee is during winter infested by the Koondood robbers.

No. of Stage.	Names of Places.	Distance in Kos.	
20	Khufeloong ..	10	Zumistanee route continued. Khufeloong, a halting place, is also called "Loongpa" by the Thibitans, and "Khoopoolughzee" by the Turkees, the three terms meaning mouth of a pass ("dura"). The valley gradually narrows between two cliffs running from east to west as far as Koolunooldee (No. 24). Road good all the way. The roads from the following passes that conduct from Yupchan, Noobra, Chorbut, over the Karakoram range join at Khufeloong— Yupchan. Noobra. Chorbut. Grass and fuel procurable everywhere on the line of road from this place downward.
21	Jindbulghoor ..	10	A halting place. Grass, fuel, and rock salt procurable.
22	Bookhurooldee ..	10	Ditto. Two halting places, Kootash-jilga and Ighursuldee, on the road. The former is about 1 kos the latter about 4 kos from Jindbulghoor.
23	Kirghiz-jungul ..	8	A halting place in a rich pasture ground. The Kirghese of Pamer Khoord used half a century ago to infest the road at this place. They have since that period given up plundering in the Yarkand territory altogether, and the Koongood banditti have for the last forty years occupied their place on this part of the route. The old road from Tash-kurgan to the Aksai Chin passes through the Kirghiz-jungul.
24	Koolunooldee ..	12	A halting place. About 2 kos distant from Kirghiz-jungul to the left or west of the road are the remains of old buildings in the vicinity of a copper-mine, which has not been worked within the last century. The spot is called Sisckboolah, from the name of a spring of water close by. 1 kos further on is the tomb of a Thibitan called Muzar-i-Thibitee. 3 kos on is Bagh-i-Hajee Muhummud, a nice green, shady, jungly spot. Another jungly tract 3 kos further. The road leaves the Yarkand river at Koolunooldee, and ascends in a north-easterly direction to the Kotul-i-Yungduvan, an easy pass.

No. of Stage.	Names of Places.	Distance in Kos.	
25	Oonkoor-i-Yung-duvan Summit of the Pass	8	A halting place over the Yungduvan Pass. From Koolunooldee to the southern base of the pass the road lies in a narrow defile, along a stream coming down from the pass, which is frozen over in winter. From the base to the summit of the pass, where the Tiznaf stream rises is an easy ascent of about 5 kos. The descent to Toor-i-ghil, the following halting place beyond the pass, is also easy. Little snow falls over the pass in winter.
26	Toor-i-ghil ..	8	Road winds along the bed of the Tiznaf stream in a rich narrow valley, which varies in breadth from 1 to half a mile in places as far as Chiklik (No. 30). Grass and fuel in abundance. Toor-i-ghil, halting place but no habitation.
27	Doba *alias* Sooget	10	A halting place. The valley here is cultivated by a pastoral tribe, the Pukhpo, who live in a neighbouring valley, and keep large herds of yaks, sheep, goats, and horses. They also supply travellers with grain, ghee, sheep, &c., in their khirgars or felt tents near the line of road between Sooget and Chiklik.
	Muzar Badshah..	2	Ditto, ditto, ditto.
28	Piltash ..	8	Ditto, ditto, ditto.
29	Tualik ..	10	Ditto, ditto, ditto.
30	Chiklik ..	7	Ditto, ditto, ditto. The River Tiznaf, a fordable stream throughout the year, is crossed and recrossed no less than sixty times between Toor-i-ghil and Chiklik. It is frozen over in the depth of winter.
30A	Khulustan ..	1	A village containing 5 houses, inhabited by Wukhees, who cultivate and also keep large herds of cattle. The village is about a kos to the left of the road, and is visited only by such travellers as require to purchase provisions.
31	Ak Musjid ..	8	The Kotul-i-Toopduvan, an easy pass, is crossed on the road. The summit is about midway. Ak Musjid is an encampment ("Khirgah") of pastoral Toorki and Tadjiks in a rich plain country beyond the pass, which is slightly covered with snow in winter.

No. of Stage.	Names of Places.	Distance in Kos.	
	Kooshoonkoor ..	2	Two caves in rocks, inhabited by pastoral Toorki and Tadjiks, who keep here large herds of cattle and cultivate. Road in a wide rich valley between two low rocks as far as Poosar.
	Lungar Poosar ..	6	A village of 8 houses, where four streams meet and run down to Kurghulik. The road from Lungur lies in the Yarkand plains, in a well cultivated and thickly populated country, excepting between Kokiar and Kurghulik, which runs through the Bestiruk Dusht, a sandy barren desert.
32	Choukee or Police post of Kokiar	2	A guard of 16 Chinese soldiers, under an officer called "Pia," and another of 16 Toorkee soldiers, under an officer called "Toongchee." No strange traveller is allowed to proceed from this without the permission of the Chinese Governor ("Amban") of Yarkand. The Choukee or police officers do not generally interfere with the passage of the traders or passengers who are in the habit of travelling between Leh and Yarkand. Road along the Kokiar stream.
	Kokiar ..	$\frac{1}{4}$	A small town inhabited by Toorki.
33	Beshtiruk ..	12	A caravansarai and village in the Beshtiruk desert.
34	Kurghulik ..	12	A large town with a market. A branch of the Tiznaf stream which passes through the town is crossed on a wooden bridge in the market. A caravansarai or Lungur.
	Yuk Shumba Bazar	8	A caravansarai or Lungur and a market which is crowded on each Sunday. A canal from the Yarkand river is crossed in the bazar over a wooden bridge.
35	Char Shumba Bazar or Posgam	2	A market and caravansarai. The Beshkun canal, which is navigated by boats, is crossed by a wooden bridge on the road. Another canal is crossed in the Char Shumba Bazar itself.

No. of Stage.	Names of Places.	Distance in Kos.	
36	Yarkand ..	12	The largest city in Chinese Turkestan. The River Yarkand, also called "Zurafshan Duria," is crossed in boats, during the summer, about 2 kos from Posgam on the road. The river is frozen over in the winter. Three kos further on from the river a canal from the Yarkand, called "Yoolchak," is also crossed by a wooden bridge.
	Total distance from Leh to Yarkand.	345	= 575 miles.
	From Umritsur to Leh	315	= 525 miles.
	Total Umritsur to Leh	660	=1,100 miles.

The Tabistanee route from Leh is more difficult, and in some places is impassable for laden horses, and their loads are carried by "yaks." It is also closed by snow on the Kurawulduwan, the Suser, and the Kilian mountains in the winter. Crossing the Khurdoong Pass and the River Shayook near Suttee, the route proceeds up the Noobra Valley (one of the richest and most thickly populated valleys in Ladakh), along the left bank of the Noobra River to the foot of the Kurawulduvan, a steep and difficult pass, leading to a loftier and still more difficult pass, that of Suser, 17,500 feet high, and covered with perpetual snow. Across Suser the road joins the Zumistanee route at Doon-i-Moorghee, thence over the Karakoram Pass to Mulikshah or Aktagh, as above described. The road from Leh to Suser lies in a north-westerly direction. From Mulikshah or Aktagh the Tabistanee route skirts the Aktagh range north-eastward to the Sooget Pass, crossing which, it follows the course of the streams, the Sooget, the Karakash, and the Toogirmunlik, one after the other, to the foot of another very difficult pass, the "Kilian-Duvan." The road across the pass goes along the Kilian stream to the large village of Kilian, passing by the police station of Kilian, and thence across a plain open country to Yarkand. The distance from Leh to Yarkand by the Tabistanee route is 275 kos or 458 miles. Total from Umritsur to Yarkand by Leh and the Tabistanee route, 590 kos or 983 miles.

I subjoin Messrs. Thompson's Public Sale Prices of Indian Tea for January, 1867 :—

Public Sale Prices. January 22 and 23, 1867.

Indian Tea.	Assam Company. 490 Packages.	Monacherra Tea Company. 365 Packages.	Northern Assam Tea Company. 323 Packages.	Cachar Tea Company. 260 Packages.	Noakacharee Tea Company. 201 Packages.	Chubwa Tea Company. 187 Packages.	Ghola Ghât Assam Tea Company. 174 Packages.	Eastern Cachar Tea Company. 100 Packages.	[D SH] 218 Packages.	[M TS] 100 Packages.	Private Growths and Sundry Companies, chiefly purchased in Calcutta. 1,483 Pckges.
	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.
	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
Dust	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Fannings	0 7½ to 0 8¼	... ...	0 6¾ to 0 8	... ...	... ...	... ...	0 11½ ...	... ...	... ...	... ...	0 7½ to 0 10½
Broken mixed black	1 0½ 1 5¼	... ...	1 1½ 1 6½	1 10½ to 1 11½	1 2 to 1 4	0 7¼ to 0 10¾	... ...	... ...	0 5¾ to 0 6¾	... ...	0 7½ to 0 10½
Namunna	... ...	... ...	... ...	... ...	1 3 ...	... ...	... ...	... ...	... ...	1 1½ to 1 1½	1 1½ 1 5
Bohea	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Congou	1 6½ 1 10	0 11 to 1 2¾	0 8 1 1	1 1¼ 1 1¾	... ...	... ...	... ...	0 6 ...	... ...	... ...	0 6¼ 0 6½
Broken	... ...	0 10¾ 1 0½	... ...	... ...	... ...	... ...	... ...	... ...	0 11¼ 1 0	1 0½ ...	0 10 1 3
Souchong	2 2 2 2½	... ...	1 1 2 1¼	1 7 1 7¾	1 6 1 6¼	1 4½ 1 8¼	1 4 to 1 7½	1 3½ to 1 4	1 4 1 9	1 9¼ 1 9½	1 0 2 2½
Broken	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Fannings	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Namunna	... ...	... ...	... ...	... ...	2 0 ...	... ...	... ...	... ...	... ...	... ...	... ...
Pekoe Souchong	... ...	1 5 2 2½	2 0 3 0¾	2 2¾ 2 3½	2 3 2 4½	1 8 1 10½	... ...	2 0½ 2 0¾	2 6½ ...	2 7¼ 2 9	1 6 2 9¼
Broken	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Fannings	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Namunna	... ...	... ...	... ...	... ...	2 4 ...	... ...	... ...	... ...	... ...	... ...	... ...
Pekoe	3 2 3 5½	... ...	2 5 3 4	... ...	3 4½ 3 8	3 0½ 3 2¾	3 0 3 1¼	... ...	3 3 ...	3 7 ...	3 1½ 3 8
Fannings	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 10½ 2 4½
Dust	... ...	... ...	2 1 ...	... ...	3 5 ...	... ...	1 11 ...	... ...	... ...	... ...	2 3 3 1
Broken	... ...	2 6¾ 2 11½	... ...	... ...	... ...	... ...	... ...	... ...	... ...	3 3½ ...	2 2½ 3 3½
Orange Pekoe	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	3 10 4 0
Fannings	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... 3 5½	... ...	... ...
Flowery Pekoe	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	4 1 4 3
Namunna	... ...	... ...	... ...	... ...	4 9 ...	... ...	... ...	... ...	... ...	... ...	... ...
											148 packages withdrawn.

3. *The Contraband Tea Trade.*

It has been shown in the first part of this paper that the monopoly of the tea trade, which has been enjoyed by the Kiachta and Moscow merchants for the last forty-five years, while it was of no real benefit to the manufacturers engaged in providing the materials of exchange for that barter trade, has been carried on at the expense of the consumers of tea at a yearly loss to them of 10,000,000 silver roubles.

I will now endeavour to show that the effect of that monopoly has been still more detrimental to the Imperial Treasury.

The great difference between the price of sea-borne tea and that imported by Kiachta induced the Russian Government, who were anxious to foster the trade by the caravan route through Siberia, to issue an Order in 1822 prohibiting the importation of tea into Russia from Europe either by land or sea. It is this prohibition which has given rise to the contraband trade in tea. The so-called Canton tea found its way into Russia in the first place from the West, being introduced by Dantzig into the Kingdom of Poland, and thence into the Western Provinces; secondly, from the North by Finland; and thirdly, by the Austrian frontier, Moldavia, and the Danube, into the neighbouring districts of Little Russia. With the view of arresting the progress of this illicit trade, various measures were adopted at different times. In 1836 a regulation was passed prohibiting the introduction and sale of tea in the Western Provinces of Russia otherwise than in sealed packets made up at Kiachta for redistribution in the country by the retail dealers, these being broken up into smaller parcels and sealed in the Moscow and St. Petersburgh Custom-houses; the penalty of confiscation and a fine amounting to five times the duty levied at Kiachta on the best qualities of commercial tea attached to the sale of tea in any other form.

The tea thus confiscated was allowed to be sold at the Custom-houses on condition of its being taken out of the country by the purchasers; if not exported within a given time it was destroyed. Subsequently, in 1845, a resolution was passed to the effect that all confiscated tea should be destroyed, 30 copecks per lb. being paid to the official who opened the chests, if no owner came forward.

This regulation proving of no avail, was rescinded in 1854, and from that year to 1858 the tea seized by the Customs officers was sold by them in quantities of not less than 40 pounds, made up in parcels fastened by bands or labels, bearing the inscription "Confiscated Tea," and under other restrictions.

From 1851, when these regulations were made equally applicable to the Kingdom of Poland, the vigilance of the Customs authorities along the western line of frontier was greatly increased, a considerable addition was made to the number of Excisemen and Customs officers at various points in Poland and elsewhere on the western border, and special officers were appointed to intercept the illicit trade in tea, for which purpose also delegates were sent by the principal tea merchants of Moscow to co-operate with the Customs officers for the protection of their interests.

In 1854 it was declared that all contraband tea seized should be sold, if appeal were not made within a certain term, the proceeds to be distributed in certain proportions among the captors.

It is evident that this measure was in itself a great incentive to smuggling, the captors first participating in the clandestine operation, then pouncing on the transports, and afterwards sharing in the proceeds of the contraband.

Notwithstanding all these measures of prevention, and partly, perhaps, in consequence of them, smuggling spread from the Western Provinces into the Governments of the interior, and contraband tea was sold at St. Petersburgh, Moscow, and even at the fair of Nijni-Novgorod.

A fresh impulse had been given to the fraudulent establishments connected with the tea trade by the opening of the five Chinese ports to British trade by the Treaty of Nanking of 1842, and, according to the statement of the Customs officers there was not a parcel of Kiachta tea sold even by large dealers in the Western Provinces and in Poland in which there was not an admixture of Canton tea.

On the Prussian frontier an insurance office was established for carrying on this illicit trade, at which orders were taken for tea to be conveyed clandestinely to all parts of the Empire. Considerable prices were given for old tea chests with the leaden seals of the Custom-houses attached to them, and under forged marks and labels of well-known Kiachta and Moscow firms Canton tea was

smuggled with impunity into the country to an enormous amount.

As these practices injured the legitimate trade very seriously, those interested in it complained bitterly against this state of things. Various projects were submitted to Government by individual merchants and commercial bodies with the view of protecting the legal trade against the formidable increase of smuggling, representations on this subject being made almost annually by the mercantile houses connected with the trade; but owing to differences of opinion, and the complicated nature of the questions, these remained under consideration till 1861, when M. Kniajevitch, then Minister of Finance, drew up an elaborate Memorandum on the subject, the result of which was the establishment of the "banderolle" or label system, which was enforced by a Decree of the $\frac{30\text{th March}}{11\text{th April}}$ of that year.

According to this regulation no tea was allowed to be sold in wholesale warehouses except under Custom-house seals, nor in retail shops except in chests containing 1 lb. packages bearing the "banderolle." Small retail dealers were, however, allowed to sell $\frac{1}{2}$ lb. packets covered with a "banderolle." Infractions of these rules were punished by a fine of five times the amount of the duty on tea for the first offence, twice that amount for the second, and three times for a third conviction; after which the privilege of trading in tea was withdrawn. Other penalties attached to the forgery of labels and Customs "banderolles," according to the code of laws.

But these and many other precautions not only proved unavailing, but were actually complained of by the Moscow merchants and others in whose interest they were adopted, the "banderolle" system was declared to be oppressive, while the parcelling of tea in small packets was said to destroy its flavour.

The evil from which the Kiachta merchants and those connected with the barter trade with China suffered had been brought on by themselves; thanks to the prohibitive Tariff which was supposed to protect their interests, they were enabled to keep up the price of their common black tea at a minimum of 9*s.* per lb., while the smuggler could sell his tea throughout the central parts of the Empire at a maximum of 3*s.* per lb., with a profit at that price of more than 100 per cent.

The retail dealers also had a large share of the advantages in the difference of price, for they either sold the Canton tea as Kiachta tea, or mixed it with the latter in a large proportion. The public suffered, and the State was defrauded of a large revenue solely for the benefit of the town of Kiachta, and of the manufacturers of the cloth, which the Chinese actually purchased considerably below its cost of production, the high price commanded by the teas enabling the Kiachta merchants to burden it with the loss on the cloth.

At length the Imperial Government determined to try the effect of legalizing the importation of Canton tea into Russia, and on the $\frac{1}{13}$th April, 1862, the importation of sea-borne tea was permitted by the European frontiers, at first with a differential duty in favour of the importation by the land frontier; these duties being, however, assimilated in 1865, when the duty on importation by sea or land was fixed at 50 copecks (1*s.* 4*d.*) for the superior teas, and at 35 copecks (11*d.*) for the inferior black teas. But the abolition of this important monopoly has naturally caused great dissatisfaction amongst the Kiachta and Moscow tea merchants, and those connected with them.

A fair opportunity has, however, lately been given to these merchants of bringing before the Imperial Government their grievances on the subject of the legalized importation of Canton tea, and of stating, in the fullest manner, all the objections, political as well as commercial, which they can urge against it, as well as against the diminution in the duties on sea-borne tea proposed in a Memorial drawn up in 1864, by the Permanent Committee of the so-called German Commercial Congress, with the view of inducing the Russian Government to assimilate their Tariff to that of the Zollverein, and of preparing the way for the conclusion of a Treaty of Commerce between Russia on the one side and Prussia on the other, as the Representative of the Zollverein.[]

Every subject connected with the trade of the two countries is examined with the utmost detail in this able work, in which the German writers, without volunteering any statement of the extent and value of the contraband trade carried on across the Prussian land frontier into Russia, point out the impossibility of exercising an effectual control over a Customs line extending several hundred miles in length, and of preventing the illegal introduction

of articles on which the Russian Tariff levies, in many cases, duties equal to 100 per cent. of the value of the imported articles.

A portion of this Memorial is devoted to a comparison of the Russian and Zollverein Tariffs, from which it appears that many articles pay a duty on entering Russia five or six times the amount of that levied by the Tariff of the Zollverein, as, for instance, in the case of tea, the relation of the duty to the average value of which was in 1864, according to the Russian Tariff, 92 per cent. and 112 per cent., and by the Zollverein Tariff only 15 per cent.

A translation of this work in Russ having been prepared by the Imperial Government was widely distributed throughout Russia, with the object of drawing from all the commercial bodies in the country observations and suggestions in answer to the proposals of the German merchants.

Several replies have already been received from Russian Chambers of Commerce, all, however, with the exception of that from Odessa, more or less opposed to the views propounded in the German Memorial; and, amongst others, one from the merchants of Moscow engaged in the tea trade, of which the following is a précis.

The questions examined by the Moscow merchants, in reply to the suggestions made in the German Memorandum, are the following:—

(*a.*) What effect has the Kiachta trade on the commercial and political interests of Russia?

(*b.*) What is the cause of the slow development of that trade?

(*c.*) What effect is likely to be produced by the admission of Canton tea into Russia?

(*d.*) Is it advisable to keep up the Kiachta trade even if the advice given in the German Memorial is followed by a reduction in the duties on Canton tea?

To the question (*a.*) the Moscow merchants reply—

1. That the commerce of Kiachta is of the highest importance, as it tends to strengthen the friendly relations existing between Russia and China, and that, without this bond of union, eventualities might arise which would necessitate a considerable augmentation of the military forces of Russia on the Chinese frontier.

2. That the Chinese trade affords a market for Russian manufactures such as is nowhere to be found in Europe;

that when foreign goods were admitted *in transitu*, as was the case in 1816 with Silesian cloths, the export of Russian cloths declined in the same proportion as the export of foreign cloths increased; and that the value of this trade may be judged of from the fact that the annual exportation of Russian produce to China by Kiachta includes 1,500,000 arshines of plush, 600,000 pieces of linen and hempen stuffs, 200,000 skins of kid and Morocco leather, 100,000 fox, 500,000 to 1,000,000 lamb-skins, 300,000 cat-skins, and 1,000,000 squirrels, as well as other merchandize, forming a trade which gives employment to a vast number of hands throughout the empire.

3. The transport of merchandize between Moscow and Kiachta, a distance of 6,000 versts, costs from 3,500,000 roubles to 4,000,000 roubles, which sums are expended in Siberia and Great Russia, giving a considerable impulse to the agricultural and grazing interests in those countries which are devoid of manufactures, whilst the hunting and trapping for furs gives employment to the poorer classes of Siberia to the annual value of 900,000 roubles.

4. The commerce of Kiachta, being confined to Russian merchants, is manifestly of the greatest value to Russian interests, while the Canton tea trade, being chiefly in the hands of foreigners, is naturally of greater advantage to them than to Russian subjects.

To the second question (*b*) they reply, that the slow development or stagnation of the Russian trade with China is owing to the ignorance that exists as to the true relative value of tea and of Russian merchandize, and of the class of goods which can be disposed of to the best advantage or imported from thence into Russia; the Chinese traders, who are notorious for false representations, giving only such information as suits their interests.

But, it may be said, they continue; that Russia, having had for so many years a Mission in China, the members of that Mission, residing as they did in the country for ten years at a time, ought to have been able to furnish the information required by Russian traders. The answer to this is, that, although that Mission doubtless had its political advantages, its members were not obliged to communicate commercial intelligence to Russian merchants, and, as they were mostly ignorant on matters connected with trade, and were compelled to live altogether in Pekin, they had very little opportunity of learning the true state of commercial

affairs, and still less possibility of following the fluctuations of commerce.

Another cause of the slight development of the Kiachta trade they consider to be the exorbitant duty which was levied on tea up to the publication of the Tariff of 1862.

For instance, by the Tariff of 1841 the duty on green and flowery tea (which in China costs 50 roubles for a chest of 57 lbs.) was 75 copecks per lb., while on black tea, worth in China 40 roubles for a chest containing 87 lbs., the duty was 60 copecks per lb.; that is to say, 100 per cent. on the value of the first, and 130 per cent. on that of the second description of tea at Kiachta.

Although by the Tariff of 1845 the duty on black tea was reduced to 40 copecks, that on the superior teas was raised to 80 copecks, and it was only in 1849 that this duty was reduced to 70 copecks, or about 80 per cent. of the value of that tea, and 87 per cent. of the value of the black tea. This duty remained in force till 1862, that is to say, until after it had been determined to permit the importation of Canton tea into Russia. It is only since that period that the duties at Kiachta have been reduced to 40 copecks for fine and coloured teas, and 15 copeck for black teas; while Canton teas pay 65 and 35 copecks per lb. for fine and common tea respectively. It is evident, the Russian merchants say, that duties of 100 per cent. to 130 per cent., and 80 per cent. to 87 per cent., in proportion to the value (a rate of duty imposed on very few articles even when imported into Russia by the European frontier) must be very detrimental to the importation of teas by Kiachta, especially as the Kiachta tea cannot be sold as cheaply as that which can be bought in England, Germany, and other States, and which has the advantage of transport by sea, so infinitely cheaper than the land carriage, a circumstance which has created great discontent on the part of the public who, without entering into the merits of the case, on finding such a difference between the price of tea in Russia and its price abroad, laid the blame on the monopoly enjoyed by the Kiachta merchants, a monopoly which, in reality, does not exist, since every one has a right to engage in the trade. On the other hand, great encouragement was given by this arrangement to smuggling, which has increased immensely to the great prejudice of the legal trade and of the Treasury.

The following calculation is given as a proof of the existence and continuance of this contraband trade. Latterly, that is to say, until the admission of tea by the European frontier at a reduced duty, about 150,000 chests of ordinary black tea, or 13,000,000 pounds were annually imported, this would give an average consumption at the rate of 5 lbs. per head per annum, for a population of 2,500,000, but the population of Russia, so greatly addicted to tea drinking, amounts to 70,000,000 inhabitants.

However, as soon as the duty was reduced, although at the same time tea was admitted by the Western frontier, the importation of tea by Kiachta in 1862 was not diminished; 10,000,000 pounds of tea, according to official statements entered by the Western frontier, independently of that introduced by contraband, which trade there can be no doubt was carried on at that time, and still continues to be carried on to a very great extent.

The quantity of tea imported in 1862 amounted to 23,000,000 pounds, that is to say, 10,000,000 more than in the preceding year. It is, therefore, clear that unless a contraband trade had existed in the former period when a high duty was levied on tea, the reduction of the duty in 1862 could not have increased the consumption in a single year to such an enormous extent. Besides which the Russian Government has never been in doubt as to the existence of this contraband trade, well knowing that the whole Western division of the Empire, including the Kingdom of Poland, consumed nothing but smuggled tea, and that in those provinces no tea could be found, even at the stores of the most respectable dealers, which was not mixed with Canton tea; that on the Prussian frontier the contraband trade is carried on by insurance offices and companies formed for the purpose of introducing this tea into Russia, and that Canton tea is sold not only in the frontier governments, but even in those of the interior, circumstances which render it impossible that the Caravan tea trade should prosper or improve.

They add that if these smuggling establishments on the Prussian frontier are known to the Russian Government they must be still better known to that of Prussia, and that surprise may well be expressed that the Government of a civilized and friendly European country can permit the existence on its territory of establishments of this disgrace-

ful nature, so utterly opposed to all honourable and moral feelings.

The third question (*c*) asked and answered by the Moscow merchants is—what effect the introduction of Canton tea has had on the commerce of Kiachta, and on the internal industry of Russia?

It has already been shown, they say, that the high Tariff and the insufficient surveillance of the frontier, are the principal causes of the enormous contraband trade carried on in tea. The preventive measures adopted by Government being powerless to stop smuggling, the Imperial Government determined to admit Canton tea at a moderate duty (less than that which then existed at Kiachta), but in order to avert the total cessation of the sale of Kiachta tea, the duty on the latter was reduced, making a difference in its favour of 15 to 20 copecks per lb., according as the Canton tea was imported by land or sea, a measure which it is considered will not be beneficial to Russian interests, for the following reasons:—

1. The importation of Canton tea has already injured, and will injure still more, the direct trade with China; for although Kiachta tea may be superior to that from Canton, the difference in price will always have its influence on the mass of consumers.

The trade in Canton tea being, as aforesaid, in the hands of foreign merchants, it is they who will derive the profits from this new trade, and the direct intercourse with China, already on the decline, will be restricted to insignificant proportions, the exportations of cloth and cottons by Kiachta already showing a diminution of 1,000,000 of roubles a-year for 1862 and 1863.

2. Such a diminution must inevitably lead to the ruin of several branches of Russian industry; the manufactories and iron-works must reduce their production, and this will throw a number of hands out of employment.

3. The agricultural interest will suffer in like manner in several of the Northern Provinces by such a diminution of the Kiachta trade. It will affect, for instance, the movement in corn produced by the conveyance of merchandize to and from Kiachta, calculated at 800,000 poods, and giving employment to 40,000 carts, at an expense of 3,500,000 to 4,000,000 silver roubles.

This reduction in the circulation of ready money will

render the payment of taxes, &c., difficult, especially as the want of roads, particularly in Western Siberia, makes the carriage of grain (when payment in kind is required) a matter not only of great hardship, but of great loss to the labourer. To meet these difficulties the peasants will be compelled to reduce their establishments, and to seek labour almost exclusively in the gold-mines, several hundred, and in some cases 1,000, versts distant from their homes.

4. The decline of the Kiachta trade is calculated to produce a baneful influence on the industry of the Siberian towns, whose resources would be very small were they not supported by the profits of the Kiachta trade.

5. It is evident that as the trade in Kiachta tea decreases, that in Canton tea will improve; and this, as shown before, is exclusively in the hands of foreigners who do not require Russian manufactures, and who in their trade with China would doubtless prefer exporting the manufactures of their own country. What they would take from us in exchange for the tea imported by them would be, not cloth, plush, or linen, but our raw produce, or money. The value of 10,000,000 lbs. of tea, or, should the Kiachta trade entirely cease, of 20,000,000 lbs. of tea, at an average of 1 rouble 10 copecks, would amount to from 11,000,000 to 22,000,000 roubles per annum, an exportation from Russia of the precious metals of no slight importance, especially at the present moment.

6. It is certain that the ruin of the direct trade with China could not fail to change the political relations of Russia with that Empire, and the more so, since, as China becomes more closely connected by commercial ties with other European countries, the latter will certainly not lose sight of the great advantages to be derived from intimate relations with an Empire containing 400,000,000 inhabitants, offering such a vast market for their manufactures of every description.

Thanks to existing peaceful relations with China, the surveillance of the extended Asiatic frontier does not necessitate the expense of keeping up a large force; but who can say, when that commerce has declined, and with it the prestige of Russia has diminished, while that of European countries has increased, that her relations with China will be of the same amicable nature as at present?

If the nature of those commercial relations with the Chinese Empire has hitherto facilitated the settlement of disputes which occasionally arise between the two Governments, how much greater will be the difficulty of bringing about a satisfactory explanation of similar misunderstandings when those commercial relations no longer exist; and how great will be the sacrifice which the necessary augmentation of the army will entail upon the country? It may also be fairly asserted that the discontinuance of her actual relations with China would go far to diminish the value and importance for Russia of the magnificent region which she has acquired on the Amúr, which can never attain its complete development if the commerce and welfare of a large portion of the population of Siberia is lost sight of and neglected.

7. The apparent advantages to be derived from the legalized importation of Canton tea into Russia may be summed up in the fact of its being comparatively cheaper than the Kiachta tea, and in the diminution of the contraband trade, and the consequent augmentation of the revenue derived from the duties on tea. But what do these advantages amount to in reality?

It is certain that the superior kinds of Canton tea are not sold in Russia at a lower price than that charged for a similar class of tea imported by Kiachta; at all events the difference, if it does exist, does not exceed 15 or 20 copecks per lb. at the wholesale price; but as inferior descriptions of tea are invariably mixed with Canton tea of a superior quality in the retail trade, it follows, as the result of the saving of 20 copecks per lb., that the public drinks an inferior description of tea, the 20 copecks thus saved being in reality a gain to the retail dealer alone.

Taking, however, the whole amount of the consumption of ordinary tea in Russia at 23,000,000 lbs., and the middling and inferior qualities at 10,000,000 lbs., which is equal to the whole annual importation of Canton tea, and estimating the profit as above at 20 copecks per lb., the gain would amount to 2,000,000 roubles, and this, too, only in the event of the direct trade with China ceasing altogether; at present, however, that estimated profit would have to be diminished by half. But it is also possible that the Canton tea, after having obtained entire possession of the market, to the exclusion of all other teas, may rise in price, so that even this expected profit might not be realized. Is it

therefore advisable, for an apparent economy of 2,000,000 roubles, to sacrifice far more important interests, the loss of which would be irreparable?

With respect to the diminution of the contraband trade in tea, and the consequent increase in the revenue, as regards the former there is only too good reason to believe that smuggling in that article is still carried on to a very great extent; and with regard to the latter (the increase of the revenue), it can be shown from official statements that in 1860, before the admission of Canton tea, the duties on tea received at Kiachta amounted to 6,000,000 roubles, and that in 1863, after the importation of Canton tea was permitted, the duty received on every description of tea amounted only to 5,700,000 roubles.

On the other hand, there is reason to believe that the reduction in the duty on Kiachta tea which took place in 1862 would have given a fresh impulse to the trade without loss to the Exchequer, even had it not been determined to admit Canton tea; consequently the importation of Canton tea is not calculated to be of any real benefit to the Empire.

(*d.*) Is it advisable to support the trade of Kiachta, and can the duty on Canton tea be reduced with advantage?

The importance to Russia of the Kiachta trade is sufficiently evident from the foregoing observations; it enables her to keep open direct communications with the Chinese Empire, and to continue those friendly relations which for centuries have existed between the two countries; it tends to develope our manufacturing interests and it benefits, to a great extent, the population of Siberia.

These reasons alone would be sufficient argument in favour of sustaining that commerce without reference to the fact that no State can, without prejudice to its own interest, weaken any branch of its trade in favour of foreign interests. But as the diminution in the duty on Canton tea proposed by the German merchants would not only weaken but absolutely ruin the Kiachta trade, it is clear that such a diminution of that duty would be an act of great injustice to those interested in the trade.

If the Government considered it urgent to admit Canton tea they ought at the same time to have supported the Caravan trade by giving the merchants concerned in it the possibility of extending their direct relations with

China, for which purpose greater privileges and advantages ought to be obtained for that trade in the interior of China, and by removing the restrictions to which Russian merchants in that country are subjected; more particularly ought this to be the case when the peculiar nature of the tea trade, its slow return of capital, and the enormous expense of land carriage are taken into consideration; some corresponding advantage, in short, ought to be obtained for the Kiachta trade to counterbalance those which the importers of Canton trade enjoy; and, again, considering that the principal evils from which this commerce suffers arises from the contraband trade and the fraudulent mixture of teas, it would be advisable to establish a separate system of accounts as well as separate Customs seals and wrappers, as for two distinct trades. It would be necessary also to exercise a stricter surveillance not only at the frontier but throughout the Empire, and especially in those places where the contraband and mixed teas are sold, an illegal trade that ought to be most severely punished. These are the only measures that can save the Kiachta trade from ruin, and contribute to a greater development of the commerce of Russia with the interior of China, and more than ever should they be taken into consideration now that the principal States of Europe are directing particular attention to China, and are endeavouring, with the utmost pertinacity to exercise an influence, commercial as well as political, over that country.

The Imperial Government having wisely allowed the Representatives of all the different commercial interests to examine, at their leisure, the arguments in favour of a reduction of the Russian Tariff proposed in the German Memorial, and freely to state their objections to the suggestions it contains, we may consider the foregoing as the last word that the Moscow merchants engaged in the tea trade have to say in support of their threatened monopoly and the protection they have so long enjoyed at the expense of the general interests of the country.

It is difficult to imagine, should the Russian Government desire to try the experiment of a further reduction in the duty on sea-borne tea, that arguments such as those put forward by the Kiachta merchants can have any great weight with them.

No doubt the Kiachta trade is of considerable impor-

tance to Russia, both in respect of the consumption of home manufactures as well as in providing the inhabitants of Siberia established on the Kiachta route with profitable sources of employment, but the assertions of the Kiachta merchants as to the impending ruin of their trade, must be taken with some reserve, for recent accounts from that town represent it to be in a most flourishing condition; while there is reason to believe that the trade connected with it is likely, if not to improve, at all events to be placed on a sounder basis than has hitherto been the case. The necessity for disposing of Russian manufactures below cost price will gradually cease and the Chinese, if they require Russian goods, will be compelled to sell their tea cheaper or to bring to market other merchandize for the barter trade; and the inhabitants of Siberia and all those who prefer the Kiachta tea will no longer be obliged to pay the fabulous prices which the Kiachta merchants were compelled to ask to recoup themselves for the losses they sustained in bartering Russian manufactures below their value.

Western Russia, it is true, will be more conveniently supplied with sea-borne tea, but it is certain that the overland route will continue to be the most serviceable for its Eastern dominions and the one by which the furs, skins, leather, plush, and cloths of Russia can be more readily forwarded to Mongolia and the Northern Provinces of China, where the rigour of the climate will always create and sustain a demand for those articles which Russia can supply on the most advantageous terms.

The arguments of the Kiachta merchants are, however, completely refuted by their talented countryman, M. Tegoborski, who, in 1855, not only foresaw the necessity of admitting sea-borne tea at a moderate rate of duty, but has actually answered, by anticipation, the statements of the Moscow merchants. For instance, with regard to the sacrifice which the legal importation of sea-borne tea might impose on Russian industry, M. Tegoborski makes the following calculations: "Taking the total average annual value of Russian exports to China during the period from 1849 to 1853 at 6,146,400 roubles, in which cloths and woollen fabrics figure for 2,598,000 roubles, and supposing that the exportation of cotton goods should cease altogether, and that of woollen and all other articles should be reduced to half, in consequence of

the diminution in the tea trade; the loss to the woollen trade, which produces yearly about 46,000,000 roubles, would be 1,299,000 roubles or 2·8 per cent.; for the cotton trade, the yearly value of which may be estimated at 56,000,000 roubles, the loss would be 1,398,000 roubles, or 2½ per cent.; while for manufactures of all other kinds, representing a value of 500,000,000, the loss sustained would be 3,772,000 roubles or 0·7 per cent.; in addition to which if, from the sale price of the cotton goods one quarter only be deducted for the value of the raw cotton, dye stuffs and other articles employed in the manufacture, the loss to the labour of the country would not amount to more than 2,827,000 roubles. The diminution in the demands for Russian manufactures at Kiachta, which might arise on the legal importation of Canton tea, cannot, therefore, be considered in the light of a serious injury to the general trade of the country though no doubt it might affect very sensibly some of the Moscow mills that work entirely for the China trade. Nor must it be forgotten that these manufactures have often suffered severely by the variable nature of the Kiachta trade, as, for instance, in 1853, when the value of Russian exports to China, which in the preceding year amounted to 8,120,600 roubles, suddenly fell to 3,579,800 roubles or considerably less than half."

M. Tegoborski, likewise anticipates the objection raised by the Moscow merchants, on behalf of the interests of the population engaged in the transport of merchandize to and from Kiachta.

"The importance of this traffic," he says, "may be estimated by the following figures. In 1842, one of the most prosperous years of the Kiachta trade, 8,500 carts arrived at that town with 180,536 poods of Russian merchandize, while 22,643 carts were despatched from Kiachta, with 467,679 poods of Chinese merchandize.

"The sums paid for the carriage of these goods amounted to 1,823,500 roubles, dispersed amongst the poorer classes of the population in Siberia; as this kind of transport is managed by caravans, one driver only is required for every three or four carts; for the 31,153 carts therefore, only 9,000 or 10,000 drivers are required, so that if the sum above-mentioned be divided amongst that perambulating population, it would give to each individual 180 to 200 roubles, or about 58 roubles 53 copecks for each cart.

But the interests of this moving population are likewise affected by the variations of the Kiachta trade, and in 1853, the sum paid to them for the transport of goods only amounted to 857,549 roubles, that is to say, far below half the amount of good ordinary years."

The observations of the Moscow merchants with regard to the baneful effect of the contraband trade are doubtless perfectly just, the mode, however, by which they propose to put a stop to it, viz., by increasing the preventive force on the frontier, and by exercising a rigid surveillance over the sale of tea, not only on the frontier but throughout the Empire, are neither practical nor feasible; the troops engaged in the Customs service on the western frontier already number 13,000, a force equal to that which formed the whole regular army of the United States of America before the late civil war, and it may be safely asserted that if the entire Russian army were employed in the preventive service, the contraband trade would still be carried on as long as the terms of the Tariff made smuggling a profitable business. That the Russian market for tea is far more extensive than is shown by the Custom-house Returns cannot be doubted; it offers, indeed, a wide field for advantageous speculation, but unfortunately no sufficient data exist by which it is possible to determine the true demand of that article, that is to say, the real amount of tea annually consumed in Russia, with regard to which no idea can be formed without some certain knowledge of the extent to which the contraband trade in tea is carried on; and on this subject the Imperial Government itself is confessedly in the dark.

The following calculation of the minimum amount of the contraband trade in tea was made in 1856, five years before the admission of tea by the European frontier. Taking the population at 60,000,000, and supposing only one-tenth of that number to be consumers at the rate of one quarter of a pound per month, this would give for 6,000,000 inhabitants at the rate of 3lb. per annum, a minimum consumption of 18,000,000 lbs., deducting from this the legal importation which was then 11,000,000, this would place the minimum of the contraband trade at 7,000,000 lbs. per annum.

As corroborative of the correctness of this calculation, attention has been called to the result produced by the Ukaze of $\frac{30 \text{ March}}{11 \text{ April}}$, 1861, admitting Canton tea; the legal importation (on which duty was paid) in 1862, being

10,000,000 lbs., the importation of tea by Kiachta during that year having diminished by 1,500,000 lbs., the difference 8,500,000 shows, therefore, the increase of the legal importation. But it is possible that these calculations are far from disclosing what was the true extent of the illicit trade in tea, and at all events they are not of a nature to justify a belief that the illegal trade in tea on the western frontier has ceased.

In a report of the tea trade for 1855, published by the eminent tea merchants, Messrs. W. J. and H. Thompson, of Mincing Lane, to whom I have already referred, a circumstance is mentioned which has induced me to make some calculations on this subject; the following is an extract from the report to which I refer:—

Extract from Messrs. W. J. and H. Thompson's Annual Report for 1855.

"In reviewing the course of the tea market during the past year, the most striking feature to notice is the extent of both imports and deliveries. Notwithstanding the increased troubles at Canton, leading to an almost total suspension of business at that port for some months, the heavy decline in all descriptions in England, the great losses sustained last year, the increasing value of money, and the high prices paid for silver remittances, such was the activity at the new port of Foo-chow, and the confidence in this market entertained at Shanghae, that the result has been we have received the largest import ever known, viz., 84,000,000 lbs.—an excess of 6,000,000 lbs. over 1854, and 23,000,000 lbs. above the averages of the five previous years. The deliveries also, which, so far as regards home consumption, it might have been supposed would have been checked, if not lessened, by the largely increased cost of all articles of prime necessity, and likewise by the additional duty, have, on the contrary, steadily increased, and give a surplus over last year of upwards of 3,000,000 lbs., and over the average of the five previous years of nearly 11,000,000 lbs., *while the export (stimulated by an immense and unlooked-for demand for the Baltic ports)* shows the astonishing result of 6,000,000 lbs. increase above that of last year, and nearly 10,000,000 lbs. over the average of the five previous years.

"The increased duty of 3*d.* per lb., which took effect

from the 20th of April, coming unexpectedly, harassed the dealers and led to heaviness and lower prices. The extra impost does not appear to have produced any effect on the quantity taken for home use; indeed, it is now pretty evident that in pinching times tea is one of the last articles given up by the lower classes, amongst whom it is sometimes resorted to as a substitute for more solid but expensive aliment. *The sudden large purchases of common Congou at Shanghae for the overland Russian demand* was a great relief to the London market, as it prevented the possibility of its being, for a time at least, over supplied with low qualities; and, following this, came the *immense exportation to the northern ports* (*also understood to be chiefly for Russian consumption*), by which the market was cleared of the incubus under which it had been so long labouring, viz., a large and increasing stock of common Congou, too low for the general purposes of our dealers."

From this statement it appears—

1. That in the year 1855 (the second year of the Crimean war) an unprecedented amount of tea was exported from England to the German Baltic ports for Russian demand.

2. That during the same year very large purchases were made at Shanghae for the overland Russian demand, so large, indeed, that the arrival of that amount in England would have had an injurious effect upon the market.

3. That in both cases the tea exported to Russia was common Congou, of too low a quality for the general purposes of London dealers—tea that was probably worth in ond in England 1*s.* per lb. before the reduction of the uty, and now worth about 6*d.* per lb.

The exports of tea from England to Prussia in ordinary fore the Crimean war), as, for instance, for 1849 was as follows:—

	lbs.
.. .. ..	395,302
.. .. ..	802,513
.. ..	892,507

s the exportation of tea from ears was, in—

	lbs.
.. ..	557,023
.. ..	278,254
.. ..	544,985

But when the Crimean war broke out a most remarkable increase took place in the exports of tea from England to the ports of Northern Germany. The exports of tea from England to Prussia rose in 1854 to 2,941,023 lbs., and in 1855 reached the extraordinary amount of 5,247,554 lbs.

The export of tea from England to the Hanse Towns being, for—

	lbs.
1854	1,764,968
1855	2,793,136

Taking 800,000 lbs. as the average annual export of tea from England to Prussia (though this far exceeds the normal demand at that period), and 500,000 lbs. as the average annual export of tea from England to the Hanse Towns, making together 1,300,000 lbs., and the exports of tea from England to the North German ports for 1855 at 7,940,790 lbs., this would leave an amount of 6,640,790 lbs. to be accounted for, which can only be done by supposing it to be the supply for the Russian demand referred to in Messrs. Thomson's Circular.

But, up to the year 1861, the importation of sea-borne tea into Russia was strictly prohibited; nor did the Returns of the Russian Custom-houses show a single copeck derived from the duty on tea imported from Europe by the land or sea frontiers, though the seizures of smuggled tea made every year, as shown in the following Table, are sufficient to prove that the contraband trade in that article had been for many years both active and extensive.

Amount of tea confiscated on the western land frontier:—

	Poods.	Russian lbs.		Poods.	Russian lbs.
1848 ..	838	33,520	1856 ..	6,294	251,360
1849 ..	1,222	48,880	1857 ..	7,072	282,880
1850 ..	1,851	74,040	1858 ..	5,096	203,840
1851 ..	3,184	127,360	1859 ..	5,265	210,600
1852 ..	3,046	121,840	1860 ..	3,751	150,040
1853 ..	3,628	145,120	1862 ..	1,455	58,200
1854 ..	5,867	234,680	1863 ..	1,009	40,320
1855 ..	8,167	326,680			

There is, therefore, little doubt that the 6,500,000 lbs. of tea exported from England in 1855 to the North German ports, over and above the German demand, succeeded in entering Russia surreptitiously, with the exception of the 326,680 lbs. confiscated by the Custom-house authorities in the course of that year.

As, however, it is impossible to suppose that such a demand should have sprung up in a single year, we may infer that this amount of tea was part of the ordinary annual Russian demand. Far from representing, however, the extent of the contraband trade in tea by the land frontier, there is reason to believe that this amount of 6,500,000 lbs. only represents the quantity of tea smuggled annually into Russia by Russian sea-ports, a branch of the contraband trade in tea totally independent of that carried on by the western land frontier through Prussia, Poland, Gallicia, and Bessarabia.

It has been shown that the exports of tea from England to the North German ports, which in 1849 amounted to only 952,322 lbs., rose in 1855 to 7,940,790 lbs., the total exports of tea from England during that year being 13,626,507 lbs. In the following year, however, the Crimean war being at an end, and the blockade of the Russian ports being raised, the exports of tea from England were as follows :—

	lbs.
To Prussia	544,347
The Hanse Towns	740,893
Total	1,285,240

The total exports of tea from England to all countries being 5,718,764 lbs.

The tea trade had apparently returned to its normal condition, the illicit Russian demand being probably supplied as it had been before the war.

Supposing 6,500,000 lbs., therefore, to be the amount of tea annually smuggled into Russia through Russian sea-ports, the next questions that arise are, what is the amount of tea clandestinely introduced into Russia by the western land frontier, and from whence is it supplied ?

Taking into consideration the very prevalent taste for tea in which the lower class indulge so freely, although the tea they drink in the tea shops often costs as much as 2 and 3 roubles, 5*s.* 4*d.* to 8*s.* per lb., it is evident that when tea could be purchased at 1*s.* or less per lb., the consumption would be comparatively much more extensive. Russian officers have told me that, when in Poland, they had no difficulty in getting tea at that low price for their men in hospital, &c., but that the tea was of an inferior description to that drank in the interior of Russia.

M. S. Maksimoff, a distinguished botanist, who has had opportunities of examining this tea, says, "that the tea in common use in the Polish provinces and in Little Russia, which is called, 'herbaty,' is so wretchedly bad that it can hardly be called tea," it is probably a very inferior description of Bohea.

On the other hand, the upper classes residing in Poland and the western provinces have for many years been enabled to drink a good ordinary black tea at from 84 copecks to 1 rouble (2*s.* 2*d.* to 2*s.* 8*d.*) per lb. Of this advantage there is little doubt all classes have availed themselves, through an extensively organized illicit trade, from which the Russian Exchequer has not derived the slightest benefit, except of late years by the sale of confiscated tea.

Whence comes, however, the supply with which they have been provided for many years? It would seem that it must be derived either from England or from Hamburgh.

In ordinary years, the export of tea from England to Prussia (as in 1856) was little more than 500,000 lbs.; but in 1851 Prussia imported from England 892,507 lbs., or less than double the amount usually drawn from that country on Prussian account; it is possible that the extra 492,000 lbs. may have been purchased for the Russian demand; but it is evident that this would represent but a minute portion of the tea conveyed by the western land frontier into Russia, for we have seen that the sudden closing of the Russian ports, three years later, created an immediate demand for 6,500,000 lbs., which may be considered to represent the supply for the illicit demand from the Baltic provinces and Finland.

It would seem, therefore, that although the supplies required for the contraband trade in tea in Russia may on an emergency be drawn from England, this is not the usual source from whence that supply has been obtained.

There are several reasons why it would suit the agents of this clandestine trade to obtain the tea they require from Hamburgh rather than from England; amongst others, the fact of the market being so much nearer, and secondly, the possibility of obtaining a cheaper description of tea there than in London.

This is shown in the accompanying price currents of London and Hamburgh for the years 1863 and 1864, from which it appears that Bohea tea may be purchased at

Hamburgh for from $22\frac{1}{2}$ to $24\frac{1}{2}$ copecks (from $6\frac{1}{2}d.$ to $8\frac{1}{2}d.$) per lb.; whereas the cheapest Congou tea that could have been purchased in England suitable to the Russian market was from $23\frac{4}{5}$ (8*d.*) to $85\frac{1}{4}$ (2*s.* 3*d.*) per lb.

PRICE CURRENT in Hamburgh.

Qualities of Tea.*	Per Hamburgh lb.		Per Russian lb.	
	1863. October 4. / October 16.	1864. February 12. / January 31.	1863. October 16. / October 4.	1864. February 12. / January 31.
	Sch. bco.	Sch. bco.	C. Rs. c.	C. Rs. c.
Black Tea—				
Bohea ..	8 to 9	8 to 9	$22\frac{1}{2}$ to 0 24	$22\frac{1}{2}$ to 0 $24\frac{1}{2}$
Congous of different kinds	$11\frac{1}{2}$ 32	11 42	$32\frac{1}{3}$ 0 $89\frac{4}{5}$	$30\frac{3}{4}$ 1 $24\frac{1}{2}$
Puchong ..	$9\frac{1}{2}$ 15	9 15	$26\frac{1}{3}$ 0 $42\frac{1}{10}$	$25\frac{1}{3}$ 1 $42\frac{1}{10}$
Suchong ..	$14\frac{1}{2}$ 36	$14\frac{1}{2}$ 36	$40\frac{3}{4}$ 1 1	$40\frac{3}{4}$ 1 1
Caper ..	10 25	10 25	28 0 $70\frac{1}{5}$	28 0 $70\frac{1}{5}$
Orange pekoe ..	12 36	12 36	$33\frac{2}{3}$ 1 1	$33\frac{2}{3}$ 1 1
Flowery Teas—				
Pekoe congou ..	$17\frac{1}{2}$ 32	17 32	$49\frac{4}{5}$ 0 $89\frac{4}{5}$	$47\frac{3}{4}$ 0 $89\frac{4}{5}$
Pekoe ..	16 90	16 90	45 1 $52\frac{2}{3}$	45 1 $52\frac{2}{3}$

Average rate of exchange for three years, 1 rouble = 1 schelling.

PRICE CURRENT in London.

Qualities of Tea.*	Per English lb.		Per Russian lb.	
	1863. May 1. / April 12.	1864. February 2 / January 19	1863. May 1. / April 1.	1864. February 2. / January 19.
	d.	*d.*	C. Rs. c.	C. Rs. c.
Black tea—				
Congou different kinds	9 to 32	9 to 35	$23\frac{4}{5}$ to 0 $85\frac{1}{4}$	$23\frac{4}{5}$ to 0 $93\frac{1}{4}$
Puchong.. ..	8 19	8 19	$21\frac{1}{3}$ 0 $50\frac{1}{2}$	$21\frac{1}{3}$ 0 $50\frac{1}{2}$
Suchong ..	11 34	11 34	$29\frac{1}{4}$ 0 $90\frac{2}{3}$	$29\frac{1}{4}$ 0 $90\frac{2}{3}$
Caper	9 26	9 26	$23\frac{4}{5}$ 0 $69\frac{1}{4}$	$23\frac{4}{5}$ 0 $69\frac{1}{4}$
Orange pekoe ..	12 30	12 32	$31\frac{4}{5}$ 0 $79\frac{4}{5}$	$31\frac{4}{5}$ 0 $85\frac{1}{4}$
Pekoe, black leaf ..	12 24	12 24	$31\frac{4}{5}$ 0 $63\frac{3}{5}$	$31\frac{4}{5}$ 0 $63\frac{3}{5}$
Pekoe, flowery ..	20 54	20 54	$53\frac{1}{4}$ 1 43	$53\frac{1}{4}$ 1 43

At an average of three years rate of exchange, 1 rouble=34*d.*

If it were possible to obtain a correct statement of the exportation of tea from Hamburgh to the North German

* Only those qualities are mentioned which are imported into Russia.

ports, some idea of the extent and value of the illicit tea trade might be derived from a knowledge of the legal trade in tea carried on between that port and the ports, for instance, of Dantzic and Königsberg. But the exports from Hamburgh can no longer be ascertained, inasmuch, as no official accounts of them have been kept since the year 1856, when the export duty was abolished. On the other hand, it is equally difficult to obtain correct information as to the amount of goods imported into Prussia in transit for Russia. Mr. Hertslet, Her Majesty's Consul at Königsberg, in his Report on the trade and commerce of that port for 1861, says, "Statistical information of any sort is most difficult to be collected at Königsberg. The State does not appear to see any use in controlling the yearly import and export lists, and there is no public functionary who has to look after this work, which is considered of so much importance in other commercial countries. The Custom-house Register only notices articles which pay duty, and omits all other articles, such as oilcakes, transit goods, &c."

Mr. White, Her Majesty's Consul at Dantzig, in his Commercial Report for 1865, says:—

"With a view to see how far the Dantzic import trade is affected by the demand for goods from Poland, it would be necessary to know what portion of these comes here on Polish account, and this can only be partly known from the official statistics which come to the knowledge of the public. Very often the Polish importer prefers to pay the Prussian duty as if importing the goods for home consumption, and then to smuggle them across the Polish frontier afterwards, instead of saving the Zollverein duty and being allowed to carry them through the Prussian dominions in transit. No record, however, can by any possibility be kept of the quantity of goods which are intended for the purpose of being smuggled across the Russian frontier, and are here imported with that view."

The extent of the trade of the Hanse Towns with China was lately shown in the discussions that have taken place in Berlin with respect to the adoption of a new flag for the Commercial Navy of Germany, in the course of which it appeared that in the Chinese carrying and coasting trade, which has become of great importance to Germany, there were employed in 1865 no less than 245 Hamburg ships of 82,077 tons, 91 Bremen ships of 28,207 tons,

61 Prussian ships of 19,012 tons, 126 Schleswig-Holstein ships of 30,235 tons, 32 Hanoverian ships of 7,982 tons, 15 Oldenburg ships of 4,334 tons, and 8 Mecklenburg ships of 2,060 tons.

There can be little doubt that a large proportion of the cargoes of these vessels consisted of tea, but Germany can scarcely claim to be one of the great tea-consuming countries, coffee and chicory taking the place of that article of consumption in daily life throughout the Zollverein.

The inference to be drawn from these facts, although no statistical information exists in support of it, is that the large demand for common tea in the Western Provinces of Russia has been and still continues in part to be supplied from Germany by contraband agents.

The united population of the nine Western Provinces (comprised under the denominations of White Russia, Lithuania, and Little Russia) together with the Kingdom of Poland and Bessarabia, amounts to about 16,000,000 inhabitants; taking the average annual consumption of tea of this population at the very small allowance of $\frac{1}{2}$ lb. per head, which is less than one-sixth of the average rate of consumption in England, this would give an annual importation of 8,000,000 lbs.

But the inhabitants of the Baltic Provinces and Finland have likewise for years past been in the habit of drinking contraband tea, which there is reason to believe has found its way also by St. Petersburgh and Moscow to Nijni-Novgorod and far into the interior, a demand which we may suppose has been supplied by the 6,500,000 lbs. smuggled into this country through the Russian Baltic ports.

Taking, therefore, 15,000,000 lbs. as a probable amount of the sea-borne tea smuggled annually into Russia from Europe by the western land and sea frontiers, this would give, at a duty of 40 copecks per lb. (which was the duty on inferior teas in force from 1845 to 1862), 6,000,000 roubles as the sum of which the Imperial Treasury has for many years been annually defrauded, a sum exceeding the average annual revenue from legally imported tea.

It is evident, however, that where the demand can be so easily and so cheaply supplied as in the Western Provinces of Russia, the consumption, in all probability, is far greater than that which I have suggested as the minimum

amount of the illicit trade in tea by the European frontier.

But it may be as well to consider whether a similar trade may not likewise exist along the immense Asiatic frontier, over which it is impossible to exercise such a surveillance as that kept up on the western frontier.

On reading Messrs. Thomson's Circular, it struck me that if it were possible to obtain accurate information as to the large purchases stated by them to have been made at Shanghae in 1855, for the Russian overland demand of common Congou, a comparison of the same, with the amount of tea of that description which had paid duty that year at Kiachta would enable me to judge whether a contraband trade in tea existed likewise on the eastern frontier, as well as to make some calculation of the extent to which it was carried on.

I accordingly wrote to Messrs. Thomson, who very obligingly replied to my questions in the following terms, on the 5th February, 1866:—

"The result of our inquiries are, we regret to say, unsatisfactory, inasmuch as they are of an indefinite and contradictory character, especially as to the quantity of tea that finds its way into Russia, viâ the Eastern frontier. We must place them before you, therefore, as received, leaving you to test their relative accuracy from inquiries that you can make on the spot.

"Our informants are M. Overweg, the head of the largest German firm who hold the bulk of the Russian orders in China, and one of the largest buyers for Russia in the London market; and secondly, an English merchant long resident at Shanghae. The consumption in Russia, according to M. Overweg, is from 25,000,000 lbs. to 35,000,000 lbs. per annum, but for this calculation there is not sufficient data. The German firm are not aware of any smuggling viâ Kiachta, and for the last three years they consider it has almost entirely ceased on the western frontier.

"Last year 45,000 to 50,000 chests were sent viâ Kiachta, this season it is expected 70,000 chests will go forward, 10,000 chests consisting of the finest qualities, the remainder common and medium, but by far the greater proportion of common.

"This latter is the description we hear of as being

settled from time to time by the Shan-Se, or Northern men, for the Russian market.

"There has been for some time a large old stock in Russia, in which the dealers have been working.

"Our other friend expresses the opinion, that as many as 300 'chops,' or about 18,000,000 lbs. of common and inferior teas have been bought up annually in certain districts by the Shan-Se men for Russia, and that he believes the quantity has much increased of late.

"His impression is, that smuggling must be carried on to a considerable extent on the eastern frontier, because if these figures are correct, the quantity far exceeds that reported viâ Kiachta.

"If by any means you can get a reliable return as to the amount annually consumed, the solution as to which of these opinions is correct could more easily be arrived at.

"Our export last year, both to Russia and to Germany (the bulk of which would pass into Russia), was only 12,000,000 lbs., and the Russian consumption could only be supplied from old accumulated stock and the Kiachta frontier. By the latter, 50,000 chests of 5,000,000 lbs. only were sent last year, and it would therefore follow that either the consumption is materially less than the estimate, or that smuggling does take place, and that the 300 'chops' of common tea presumed to find their way into Russia may be nearer the truth than the quantity returned to Government viâ Kiachta. Still, so great a discrepancy ought not to exist between men who, from long residence and knowledge of the trade, ought to be equally well informed.

"As to your important question,—what effect upon consumption a reduction in duty might be expected to produce?—we cannot do better than refer to our own experience of last year (1865), when the duty was reduced from 1*s.* to 6*d.* per lb.

"The deliveries have been 10,000,000 in excess of 1864, viz., 98,000,000 against 88,000,000.

"As regards the taste for tea increasing with all classes in Russia, there seems to be no second opinion, as also that the improved condition of the former serfs will add largely to its demand.

"A reduction in duty would prove the most effectual check to the temptation of smuggling, and on every ground

therefore it is a measure that may be urged with the greatest confidence as of general benefit.

"In the new Tariff there is a differential duty between Congou and Pekoe, which acts most prejudicially to trade, and leads to constant smuggling of the latter, as opportunity occurs from time to time of passing in a few chests of Pekoe among an entry of Congou.

"The difference was fixed under the idea of Pekoe being a much higher class of tea than Congou; and although such is the case with a small proportion of the class, still the bulk of Pekoe is of less value than fine Congou, in many cases not half. The differential duty is therefore mischievous to the trade, while valueless to the Government.

"In your letter you ask as to the amount of common tea referred to in our Circular of 1855 (as having been bought up at Shanghae for the overland Russian market). We regret that we have not any data which will enable us to answer you."

With reference to M. Overweg's statement referred to in this letter as to the supposed cessation of the contraband trade in tea by the western frontier since the importation of sea-borne tea into Russia has been permitted from Europe, that is an opinion which is certainly not shared by the Moscow merchants and others interested in the trade in this country. Seizures of tea indeed continue to be made every year, nor can it be doubted that the illicit trade in this article will be carried on as long as the duty remains as at present, at the high rate of 92 per cent., in proportion to the value of the tea.

Although Messrs. Thomson have not been able to give me any data as to the large amount of common Congou bought up at Shanghae for the Russian overland market in 1855, the statement of their English correspondent contains some information which may be of use in determining the question as to whether a contraband trade in tea is carried on by the eastern frontier.

According to official returns, the amount of ordinary black tea, answering to common Congou, imported into Russia by Kiachta in 1855, was 173,900 poods, or 6,956,000 lbs. Russ, an amount which was certainly not calculated to produce such an effect on the London market as that referred to in Messrs. Thomson's Circular, even had it been imported into England over and above the

84,000,000 lbs., which reached the United Kingdom that year. We may therefore infer, that the quantity of tea bought up at Shanghae for the Russian overland market was considerably larger.

The largest amount of common black tea ever received viâ Kiachta, was imported in 1860, viz., 342,471 poods, or 13,698,840 lbs. Russ; but this even would be 5,000,000 poods less than the amount mentioned by Messrs. Thomson's English correspondent as imported annually into Russia by the overland route, viz. 18,000,000 lbs., and which, according to that gentleman, is yearly on the increase. It would, therefore, not appear to be an exaggerated calculation to fix the probable amount of tea smuggled across the eastern frontier at 6,000,000 lbs., which, at the present rate of duty of 15 copecks per lb. on that frontier, would give 900,000 roubles as the annual loss to the Exchequer by the present Tariff. But, according to the Tariff existing from 1854 to 1862, when the duty levied at Kiachta was 40 copecks per lb., the loss to the Revenue on that amount of tea would have been 2,400,000 roubles, which is equal to one-half of the duty received from tea of all kinds imported into Russia by Kiachta.

The probable loss, therefore, to the Russian Exchequer, according to the above calculations, by the contraband trade in tea, would be as follows:—

	Roubles.
By the western frontier	6,000,000
By the eastern frontier	2,400,000
Total	8,400,000

on 20,500,000 lbs. of smuggled tea, that is to say, a loss of nearly 8,500,000 roubles on a single article, the annual revenue from which, under the most favourable circumstances, has only once exceeded 6,000,000 roubles, viz., in 1860, when the receipts from the duty levied on tea amounted to 6,038,000 roubles.

But, as in the case of the fraudulent importation of tea by the western frontier, it is possible that my calculations of the amount of contraband tea introduced by the eastern frontier fall far short of the reality.

M. Maksimoff, to whom I have already referred, in his work called "Notes of a Journey to the Amúr," says:—

"At least as many thousand chests of tea enter Russia

by the contraband trade as are supplied legitimately from Kiachta itself. Along the Urgua River, beyond the Baikal, immense loads of brick tea are conveyed over the Russian frontier by the Mongols.

"At Kiachta a class of Russian traders has long possessed a race of very clever ponies, wonderfully adapted for crossing the mountain paths, and, by means of these packhorses, chests of the expensive flowery teas are conveyed through Khamar Davan.

"In the neighbourhood of Semipolatinsk encounters of a desperate nature are very frequent between the inhabitants of Western Siberia and the Kirghese and Tashkendian smugglers on the Chui River."

If M. Maksimoff is correct in his statement with regard to the extent of the illicit trade in tea, the loss to the Imperial revenue on the importation of tea by the Eastern frontier will be equal to the duty received on the legal trade, or between 5,000,000 or 6,000,000 roubles per annum, making a total annual loss on the importation of tea by both frontiers of between 11,000,000 and 12,000,000 silver roubles.

While engaged on this subject, it may not be without interest to refer to the opinion given by M. Tegoborski in 1855, on the probable result of the admission of Canton tea at a moderate duty.

"Supposing," he says, "Canton tea to be admitted at the rather high duty of 25 copecks per lb., which would be about 50 per cent. of its value, the pound Russ of good ordinary tea would not come to more than 85 copecks per lb., while for common descriptions it would not be more than 45 or 50 copecks per lb. At this price tea would be accessible to all classes of the population, and instead of 300,000 or 350,000 poods (14,000,000 lbs. Russ), which are now imported, the importation of this article would increase in a few years to double that quantity, which would then even be only half-a-pound Russ of tea per head (or less than a quarter of the average consumption of tea in England). But 700,000 poods, or 28,000,000 lbs. of tea, at 25 copecks per lb., would give to the Treasury 7,000,000 roubles, instead of 4,000,000 or 5,000,000, which is the amount the Exchequer receives from the duty on tea at Kiachta, a revenue which, as in 1853, occasionally falls to 2,000,000 roubles."

"Another result," M. Tegoborski adds, "of the increased

consumption of tea would be a very great increase in the consumption of sugar, especially if a moderate duty were laid on that article, instead of the exorbitant duty now in force, equal to 100 per cent. and more of its value."

Curiously enough, within the last three years, M. Tegoborski's prediction has been exactly verified as regards the increased importation of tea at a diminished duty. The 350,000 poods of tea referred to by him as the annual average importation under the old scale of duty, have already swelled to 700,000 poods (or 28,000,000 lbs.), the figures being as follows in the last official Returns :—

TOTAL of Tea imported into Russia.

	lbs.	Duty.
		Roubles.
1862	28,885,000	5,793,000
1863	28,643,000	5,480,000

But while the importation of tea has even exceeded M. Tegoborski's expectations, his calculations as to the increased revenue which the Exchequer would derive from it have not been verified. The explanation of this circumstance is probably to be attributed to the lower duties levied on tea imported by the Asiatic frontier, which on an average do not exceed 12 copecks per lb., in consequence of which 19,164,000 lbs. of tea imported viâ Kiachta in 1862 only produced a revenue of 2,502,000 roubles, while 17,316,000 lbs. in 1863 only gave 2,090,000 roubles.

But 28,885,000 lbs., at a duty of 25 copecks per lb., as suggested by M. Tegoborski, would have given 7,221,250 roubles.

Of the above amount of tea imported in 1862 (*i.e.*, 28,885,000 lbs.), 4,644,880 lbs. were of the commonest description, or brick tea, which only pays a duty of 2 copecks per lb., the duty on ordinary black tea imported by Kiachta being 15 copecks, and on the superior description of tea 40 copecks per lb.

Supposing, for the sake of illustration, that tea of every description, except brick tea, paid a duty of only 15 copecks per lb., this would give (deducting 82,897 roubles as the duty on brick tea) a revenue on 24,241,120 lbs., at 15 copecks per lb., of 3,636,168 roubles; but at such a low rate of duty it is to be supposed that all contraband trade

in tea would cease, and the 20,500,000 lbs. I have supposed, as above, to enter Russia surreptitiously would give an increase to the revenue, at the duty of 15 copecks per lb., of 3,075,000 roubles, which, in addition to the duty on the legal importation of 24,241,120 lbs., would produce a revenue of 6,711,168 roubles, and by adding the duty on brick tea, 82,897 roubles, would give a total revenue of 6,794,065 roubles, a larger amount than has ever yet been derived from the importation of tea.

But in order to obtain so large a revenue at such a low rate of duty, it is necessary that the consumption of tea in Russia should reach the annual amount of 49,385,000 lbs.; and can this be considered as too large for the population of this vast Empire? Most assuredly not; and I believe I have shown that in all probability the amount of tea already imported annually into Russia equals, if it does not exceed that quantity.

Nor would this be surprising when one considers that, since the emancipation of the serfs, the population in Russia that has the means of purchasing cheap tea may be reckoned at 50,000,000, and that the above-mentioned amount would not give an average annual consumption of 1 lb. per head.

Although the above calculations are merely suppositions, and may appear to some persons exaggerated, I venture to offer them as an indication of the direction in which future inquiries might be made, with the view of ascertaining whether the serious evil of the contraband trade cannot be removed with equal advantage to the Imperial Treasury, to the consumers and to the importers of tea, by a further diminution of the duty on that article of consumption; and in this light I trust these observations may meet with the indulgence they require.

If the Imperial Government is desirous of trying a serious experiment in the direction of Free Trade, it is certain that no better article for such a trial could be selected than tea, the vested interests in which, according to the best authorities in Russia, are really trifling compared with the magnitude of the results which may arise for enabling all classes of the population to become consumers of tea.

That such an attempt could be made without danger of diminution to the revenue may be fearlessly predicted, and the result, if favourable, would surely induce the

Imperial Government to persevere in a course which all who are the well-wishers of Russia must earnestly desire to see her adopt.

That a reform of the Tariff in this sense with regard to other articles of import is very urgent cannot be denied. Mr. Hertslet, Her Majesty's Consul at Königsberg, in his Commercial Report for 1865, says, "The average price for heavy cotton goods at that place was 125 thalers per centner, and for light goods 225 thalers per centner; the Russian import duty for plain heavy goods is 47 roubles and 85 roubles for printed heavy goods per centner, and 130 roubles for plain and 185 for printed light goods per centner.

"The import duty in the Zollverein for such goods is respectively 10, 16, to 30 thalers per centner, with 8 to 12 per cent. additional.

"The value of such goods as flannels and buckskins is 225 thalers per Zollverein centner, the Russian duty thereon is 132 silver roubles, or from 50 to 70 per cent. The import duty into the Zollverein is only about 5 per cent.

"The import duty in Russia on silks is 35 to 70 per cent., in the Zollverein 3 to $7\frac{1}{2}$ per cent. The Russian duty on linen is likewise upwards of 50 per cent. *ad valorem.*"

This state of things, Mr. Hertslet observes, is one against which only the smugglers can contend, and Russian manufacturers would probably suffer less from a rational moderate import duty than they do from the present system.

With the view of arresting the contraband trade on the western land frontier, certain important measures have been taken by the Russian Government which have not been without effect. They appear to have discovered that the multiplication of Custom-houses, and the increase of the number of needy officials, increases the opportunities of smuggling; they have, therefore, abolished some of the Custom-houses on that frontier, others being reduced to a secondary class at which only goods exempt from duty are allowed to pass, and have selected five first class Custom-houses by which goods of every description can enter Russia on payment of duties.

This has given rise to considerable discontent in Prussia;

due notice had, however, been given of the intention of the Russian Government to effect this change, but it was not till after the measure had passed the Council of the Empire that representations were made to the Imperial Government by that of Prussia on behalf of manufacturers and others established near the frontier, who complained of the hardship of being compelled to send their goods a considerable distance in order to pass the frontier at a first class Custom-house.

I have been informed that at one of the smaller douanes, which cost the Russian Government 3,000 roubles a-year to keep up, the monthly receipts did not exceed 28 roubles in 1865; suddenly, however, in the months of January, February, and March of 1866, the traffic increased at this place without any apparent reason to 10,000 roubles; an explanation of this circumstance was sought, and was found in the protests forwarded to the Imperial Government by that of Prussia on behalf of Prussian subjects, who were thus enabled to show the importance of the traffic at a place which the Russian Government intended to reduce to an inferior class douane. On the other hand, the Russian Government were able to prove that this traffic was factitious, and had never existed there until it was necessary for Prussian manufacturers and others to show its commercial importance.

This measure has carried with it a very important change in the staff of the officials employed in the Customs service, their number being reduced by 500, an economy which enables those who are retained, and who are the most trustworthy of their class, to receive better salaries.

How much this reform was required may be judged of from the circumstance that one of the principal English firms at St. Petersburgh has been compelled to give up the importation of tea, the competition of fraudulent importers, aided by the connivance and co-operation of Customs officers, having rendered honest dealing in that article unprofitable. Some of these Customs officers it is said, used occasionally to make in the course of an afternoon a sum equal to their yearly salaries by fraudulent returns of the amount and quality of teas passed by them.

The following circumstance which was related to me by a gentleman who has taken great interest in the question of the possibility of abolishing the contraband trade on

the land frontier, will give some idea of the extent to which that trade is carried on.

A gentleman who was staying at Eydtkühnen (the Custom-house on the Prussian frontier), having shown some interest in the matter, the Director of the Prussian Custom-house pointed out an entry in his books of 100 barrels of wine which had passed that day to the Russian frontier. "Let us now go and see," said he, "what has become of this wine." The distance from Eydtkühnen to the Russian Custom-house at Wierzbolow is not much more than a quarter of an hour's walk.

The Prussian official having introduced his companion as a person desirous of seeing how the accounts were kept, the books were opened and among the entries of that morning it appeared that 40 barrels of wine had passed the frontier, and had paid duty.

It is evident that such an extensive trade as that which is now, and has for many years past, been carried on illegally across the Prussian frontier into Russia, could not exist without the connivance of the Russian authorities, whose business it is to prevent it. Seizures of contraband goods, it is true, are frequently made, varying in value from 1,000 to 3,000 silver roubles per week; but these are trifles that pass unnoticed in this gigantic business. The contraband trade is, in fact, carried on by an admirably organized society, which can afford to pay a good per-centage for the free passage of the goods confided to its charge, and which occasionally gives the Russian Customs officers a fair pretext for absenting themselves by betraying a paltry private speculation, which, while it affords the Russian officials an opportunity of displaying their zeal, keeps the coast clear for the more extensive operations of the organized society of smugglers.

The contraband insurance companies and their branch offices are so well managed, that any kind or quantity of goods may be insured on the frontier for delivery at almost any point in the Russian Empire; all their transactions are said to be carried on verbally, and the commissions confided to them are executed with scrupulous exactitude. A pianoforte would seem to be an awkward article to smuggle, but I am assured that, by existing contraband arrangements, an "Erard" or a "Broadwood" ordered at the frontier will be delivered without fail at St. Petersburgh or Moscow, and that the expenses, payment of which is only

required on delivery, will amount to about 18 roubles; exclusive of transport, the Tariff duty on pianos imported by sea being 45 roubles, and by land 35 roubles. The calculations by which the contraband agents are guided in these transactions are based on the Russian Customs Tariff, in such a manner that, however high the premium taken by the contraband insurance company, it is always considerably below the amount of the legal import duties levied by the Russian Custom-house. This premium varies according to the season of the year, the value of the goods, and the position and distance of the place at which the goods are to be delivered, and ranges between 25 and 50 per cent. of the corresponding import duties established by the Russian Customs Tariff.

It is, of course, impossible, under existing circumstances, to ascertain the amount of contraband goods imported into Russia across the Prussian frontier; those who introduce them and those who order them take good care to conceal their transactions, while those who carry on the trade along the frontier are equally unwilling to make revelations on the subject; and it is a fact that the Russian Government, notwithstanding all the resources at its command, has never been able to ascertain the extent of this illicit trade.

The most moderate calculation of the loss to the Russian Exchequer by this illegal traffic is that one-third of the goods entering Russia by the Prussian frontier pay no duty; others, however, believe that one-half, and some that two-thirds, of the importations enter Russia clandestinely.

The importations from the Zollverein into Russia, for 1861, amounted in value to 26,180,413 roubles, the duty levied on which was 4,353,205 roubles. According to those who imagine that one-third of the imports from the Zollverein are smuggled into Russia, the duties on that importation for 1861 ought to have produced 5,804,273 roubles, while 8,706,410 and 13,059,615 roubles would represent respectively what ought to have been the revenue for that year, if it can be supposed that one-half or two-thirds of the importations reached Russia clandestinely.

Calculations of this nature, however, must be vain; all we know is that the evil is very great, nor does there appear to be any remedy against it, except that of estab-

lishing such moderate duties as will render the business of the contraband insurance companies impossible. Such a remedy might be found in the conclusion of a Treaty with Prussia on behalf of the Zollverein of the nature suggested in the Memorial of the Permanent Committee of the German Commercial Congress above referred to, which, while it would open a vast market to the produce and manufactures of the Zollverein, would be equally valuable to Russia, by abolishing the contraband trade. But how can it be proved that the abolition of this illegal trade will give Russia a sufficient return for the sacrifice she is called upon to make? For it is upon this, to a great extent, that the question of the conclusion of such a Treaty turns. How is the exact value of the contraband trade to be estimated so as to provide the necessary data on which to base such a reform? The Prussian Government could doubtless give the necessary information, but Prussia can hardly be called upon to perform upon herself an act of execution by which she would expose a great proportion of her population to be looked upon as smugglers, and her Government as shutting their eyes to, if not aiding and abetting, a gigantic system of illegal trade that has been carried on for years, to the great detriment of her neighbour,—a trade which, while it may be advantageous to many establishments whose sole business it is to provide goods for the smuggler, is most distasteful to the honest Prussian trader.

It may also be added that those firms in Prussia which have connection with this illicit trade would willingly exchange it for an advantageous legal trade, for, as may easily be conceived, they often run great risks and incur severe losses from the dishonesty of the smuggling agents, from whom they can neither recover their goods nor enforce payment of their value by any legal process.

But the prospective advantages to both countries are likely to be of such magnitude that Prussia might, perhaps, be induced to afford some insight into the extent of the loss accruing to the Russian Exchequer, as much by the venality of the Russian officials as by the transactions carried on by private interests in defiance of the laws of Prussia, were she assured that Russia would go as far as she desires in the way of commercial reform.

But the Russian Government, in the alterations they

may be called upon to make in their Tariff from time to time, can only act in accordance with the requirements of the commercial interests of the country, and these are at present considered to be opposed to the sweeping reforms proposed by Germany. Experience may, however, show that the calculations and apprehensions of the Russian merchants are equally fallacious.

Since writing the above some light has been thrown on this subject by a statesman who, from the high position he holds in Prussia, must be thoroughly conversant with the facts relating to it, and who from his long residence in Russia is fully aware of the difficulties the Russian Government have to contend with.

Count Bismarck, with that frankness which distinguishes all his public utterances, has shown that the extent of the contraband trade carried on between the Prussian and the Russian frontier, far exceeds all the calculations that have hitherto been made with regard to it.

In an interesting speech delivered by his Excellency in the sitting of the Lower House at Berlin on the 25th of January, Count Bismarck, in reply to a Polish Member who had complained of the restrictions enforced by the Russian Government on the border, said, that "the Russian system of closing the frontiers against merchandize and travellers, excluding the one by extravagant Customs, and the other by endless police regulations, had never been approved of by Prussia, but had been the subject of unceasing remonstrance for years past. It was quite true that, in accordance with an Ukase proclaimed a year ago, there were now only five places along the entire extent of the Prusso-Russian frontiers where merchandize was allowed to be imported. This and the high Tariff resulted in fostering illicit trade. The Russian Government had commended the action of their Custom-house officers in levying 3,000,000 roubles more on the Prussian frontier last year than the previous one; but if there had been no smuggling going on they might have cleared from 30,000,000 to 40,000,000 roubles over and above that sum. They would scarcely succeed in suppressing smuggling, while rendering it so profitable by their Tariff, even though they were to cut down trees and demolish houses within half a mile of the frontier as they had begun to do. The most flourishing branch of the trade was the one termed legal, viz., carried on by the connivance of the

officers. But, however much the Russian Government might damage Prussia by shutting up the frontiers, it was certain that they injured themselves the most. That Government lost 40,000,000 roubles Customs a year; the people had to pay dear for many commodities of life, and an acre of land which on the Prussian side of the frontier was worth 80 thalers, could be got on the Russian for 20. It was impossible for the Russian Government to accord Poland the same Tariff as Posen, but he hoped that reforms in harmony with the requirements of the times would be introduced at length."

The improvement referred to by Count Bismarck in the receipts of the Customs raised on the Russo-Prussian frontier by the Russian Customs officers was that of 1865 over 1864. The following figures show the receipts from Customs on imports by that frontier from the year 1860:—

Amount of Duties raised on the Prussian Frontier.

	Roubles.
1860	4,463,265
1861	4,353,205
1862	6,016,558
1863	5,280,252
1864	5,893,983
1865	7,600,709

Taking 5,000,000 roubles as the average annual amount of duties received on this frontier it would appear from Count Bismarck's statement that eight times that amount of duties (or 40,000,000 roubles) might be raised on the Russo-Prussian frontier, if smuggling did not exist.

In consequence of the differential duty in favour of transport by land which was in force till the 23rd May, 1865, nearly all the tea that has reached Russia since the opening of the legal trade from Europe has been received by the land frontier.

The receipts from duties levied on the sea-borne tea since the importation was permitted from Europe has been as follows:—

	Roubles.
1862	3,291,000
1863	3,390,000
1864	2,642,000
1865	4,253,000

From this will be seen how large a proportion the

duties levied on tea bear to the total of duties raised on importations by the Russo-Prussian frontier.*

But up to 1861 the importation of sea-borne tea into Russia was strictly prohibited and this legal importation is the result of the removal of that prohibition; it is, however, hampered by a heavy duty of 92 per cent. *ad valorem* on the inferior descriptions.

In the case of cotton tissues, woollens, and silks, the heavy duties levied by the Russian Tariff have driven the trade in those articles to a great extent into the hands of the smuggler; a similar effect is doubtless produced by the amount of the duty on tea; that is to say, notwithstanding, and in addition to, the legal importation, a large amount of tea is introduced by contraband.

If therefore we apply to the importation of tea the rule supplied by Count Bismarck, in order to calculate the probable amount of the duty that might be received on that article by the Russo-Prussian frontier, and, taking 3,000,000 roubles as the average annual amount of Customs dues paid by tea entering the western land frontier, multiply that figure by 8, we shall have 24,000,000 roubles as the

* The imports into Russia by the Prussian land frontier, by the White Sea, the Baltic, Black Sea, and Sea of Azoff, for 1866, are shown in the following Table:—

	Prussian frontier.	White Sea.	Baltic.	Black and Azoff Seas.	Total Ports.	Total.
	Poods.	Poods.	Poods.	Poods.	Poods.	Poods.
Sugar	187,417	303	1,657,360	2,398	1,660,061	1,847,478
Tea	44,545	968	292,884	27,279	321,131	365,676
Coffee	48,975	2,048	260,519	52,025	314,592	363,567
Oil	50,090	3,777	685,208	198,217	887,202	937,292
Cotton, raw	526,494	...	1,863,371	5,532	1,868,903	2,395,397
„ twist	51,539	1	60,802	4,974	65,777	117,316
„ manufactures	21,744	2	12,960	6,346	19,308	41,052
Silk	3,618	...	2,417	667	3,084	6,702
Woollen	28,124	3	18,645	4,117	22,765	50,889

In this Table is seen the effect produced on the importation of tea from Europe into Russia by the equalisation of the duties by land and sea, established by the Ukase of May 23, 1865. The very large importation of tea by the land frontier which took place immediately before that date is accounted for by the endeavours of the merchants engaged in that trade to introduce the greatest possible amount of tea at the rate of 60 copecks per lb. on fine teas, and 30 copecks for ordinary teas, which was 5 copecks (about 1½*d.*) lower than the duty by sea.

The result of the assimilation of the duties by land and sea has been to diminish the importation by the former route, and greatly to increase the importation by sea; the transport by the latter being somewhat cheaper than by the land route.

amount of duty that might be derived from the importation of tea from Europe if the contraband trade did not exist; but 24,000,000 roubles represents the duty on 70,000,000 lbs. of tea, which would be equal to an average annual consumption of something less that 1½ lbs. per head of a population of 50,000,000. But it has been shown that, in order to produce a revenue approaching such a large amount, the contraband trade must be rendered unprofitable and impossible.

Experience shows that a gradual and moderate reduction of very high duties upon articles of very general use and capable of still greater consumption has by no means such favourable results, economically and financially, as a wholesale reduction. Thus while a remission of 10 per cent. of an excessive duty has no perceptible influence upon their importation, a reduction of 50 per cent. produces on the contrary, such an increase of consumption as to yield an equal or even larger revenue than a limited consumption and a manifold evasion of lawful traffic under excessive duties. No better illustration can be given of the advantage to be derived by the revenue from a low duty applied to an article of universal consumption, than that of the consumption in Belgium of coffee, which takes in that country the place held by tea in England and Russia. The importation of coffee into Belgium amounted in 1864 to 24,284,113 kilogrammes, of which for consumption in the country the amount was 19,237,189 kilogrammes; the population of Belgium is about 4,900,000, the average annual consumption of coffee per head in that country would therefore be about 8 lbs.; the duties raised on this extraordinary consumption being 2,463,000 francs, or 16 per cent. of the total revenue of the country.

Up to the present time one great element of wealth which Russia possesses in a larger degree than any other nation in Europe, the consuming power of the many millions of the lower classes of her population, has been neglected or has not been sufficiently utilized for the benefit of the nation at large and of the Exchequer. Other countries, however, have not been slow to avail themselves of it, and Prussia, Hamburgh, England, and even distant China have all benefited by the wants of the population of Russia. The condition of servitude under which so large a proportion of that population languished up to 1861, rendered that source of wealth far less productive than it

might have been. But this state of things has been completely changed by the great act of emancipation which has transformed the condition and character of the entire nation. Amongst those emancipated serfs who formerly dared not show that they possessed the means of purchasing the merest necessaries of life, many are now known to have hoarded up money sufficient to enable them to buy land, over and above that which by law they are entitled to purchase or redeem; the wages earned by them, as I have shown in a former report, are equal, and in some cases superior, to the highest wages given to labourers of the same class in England, they are consequently in the position to become purchasers in an equal degree with the labouring population of other countries; all that is required is that such consumption should be facilitated to the utmost, by encouraging the intelligent peasantry of Russia in their desire to acquire the commodities of life; at the same time meeting that demand by reductions in the Tariff on the articles most required by the lower classes.

The magnificent results of the free trade policy inaugurated in England by Sir Robert Peel have not been without effect on Russia, the truths and advantages of that policy are recognized and appreciated by the enlightened men of this country, and are gradually making an impression on the minds of those even who are opposed to them.

Unfortunately the advice that has been offered on this subject from time to time by England has been hitherto looked upon with suspicion, and it has been difficult to persuade those who imagine that we have thriven under protection that we are disinterested in counselling them to throw it aside. But although our testimony, being suspected, may not have been productive of the good that we desired, the cause of free trade has found in the persevering efforts of Prussia, and in the examples of Belgium and France, eloquent arguments that may replace our own with advantage.

Speaking of the effect produced on other countries by the example of France, Mr. Gladstone, on the occasion of his visit to Liverpool, on the 13th October, 1864, said, "We know very well what was the language held abroad; so long as the adoption of the principle of free trade was confined to the British Legislature, the language held may be summed up in these words. They charged us thus," they said, "you have mounted to wealth by the ladder of

protection, and having got there you want to prevent us from treading in your path and attaining to the same position that by means of protection you attained." That was totally untrue, protection did not lead us to wealth, protection had impeded and deferred our progress on the way to wealth; but although it was untrue, we must admit it was also plausible, it was an argument difficult for us to refute, but when France in the very midst, in the very heyday of her protective system proclaimed herself, in principle at least, and in great part in practice, a convert from the ancient system, then I think we were able to bring an unsuspected witness into court, and I frankly own that it is to the example of France that I confidently trust as being morally certain to draw after it in this beneficial course, one after another, more quickly or more slowly, and all the worse for those who are slower, but still draw after her by a certain chain of cause and consequence, the final accession of every civilized people to the principle which consecrates freedom of intercourse between man and man, between country and country."

In all that relates to commercial policy, no country perhaps has been more invariably cautious than France, and now that she has found it safe to lay aside the corks and bladders of protection, and has plunged boldly into the buoyant tide of free trade to the infinite advantage of her commercial constitution, Russia, let us hope, may follow her example and be tempted to lay aside those imaginary safeguards which have hitherto impeded her progress on the way to wealth.

J. SAVILE LUMLEY.

APPENDIX.

The very important place which the River Amúr holds in several of the Treaties concluded between Russia and China, renders some notice of that river almost indispensable in any mention of the Treaties themselves.

I have alluded in the first part of this paper to the repeated efforts of the Russians to establish themselves on the Amúr. The first news of the existence of that river was brought to the conquerors of Eastern Siberia, in 1639, by Cossacks engaged in collecting tribute and by Russian trappers, who in the course of their pursuit had crossed the Jablonoi range of mountains.

Expeditions were shortly after undertaken from Jakutsk to the Amúr. In 1644 Poyarkoff forced his way through the Aldan country to the Zeja, and descended the Amúr to the sea, returning by Ulj to Yakutsk in 1646.

In 1649, Chabaroff explored the northern portion of the river, and established a settlement afterwards, called Fort Albazin, about 200 versts from the Argun; after which he returned to Yakutsk. In 1651, he undertook a fresh expedition to Albazin, and having succeeded, by the aid of the reinforcements he brought with him, in subduing the neighbouring tribes, and in collecting tribute from them, he passed the winter at Atschanski Ostrog, above the mouth of the Ussuri; but in the following year having been defeated by a Chinese army, he retreated up the river, and founded near the mouth of the Chumar, about 600 versts from the Argun, a settlement called Kamarski Ostrog. Chabaroff was then replaced by Stefanow, who endeavoured to establish himself on the Sungari, but was utterly defeated by the Chinese in 1658, after which the Russians disappeared altogether from the Amúr, the scattered remnants of the Cossack force, who passed the winter at Kamarski Ostrog, having returned to Yakutsk.

Up to 1665, no Russian was seen on the Amúr, but in the course of that year Tchernigowski, a fugitive from justice, accompanied by a band of adventurers, reached the river and rebuilt Albazin, to which Russian colonists soon flocked in great numbers.

The Chinese, on their side, also built a fort, in 1675, on the left bank of the Amúr, at Aigun, near the mouth of the Zeja, but afterwards removed to the right bank, 40 versts below that spot, and in 1685 attacked and destroyed Albazin, allowing the inhabitants to withdraw to Nertschinsk. But no sooner had the Chinese retired than the Russians returned, and having rebuilt Albazin, they fortified it so effectually that it withstood a siege of ten months from July 1686 to May 1687.

This state of hostility was, however, brought to an end by the negotiations for the first Treaty of Peace and Commerce between Russia and China, which was concluded in 1689 at Nertschinsk, a Russian town, at the confluence of the Nertcha and the Schilka, the great western tributary of the Amúr.

The Plenipotentiary, on the part of the Chinese, was the Minister of State, So-sun, assisted by two Jesuit fathers, Gerbillon and Pereira; Russia being represented by Count Golowin.

From the interesting account given by Gerbillon of his journey, and the negotiations in which he was engaged, it appears that the Chinese Envoy reached Nertschinsk from Peking in forty-eight days, with a retinue of 2,000 men, and was joined on the Amúr by a flotilla, numbering 100 vessels and manned by 8,000 sailors.

By the terms of this Treaty, the whole valley of the Amúr remained Chinese territory. In the first article, the boundary between the two countries is declared to be the River Gorbitza, which falls into the Schilka, near Tchernaja; but there are two Gorbitzas in that region, the Great and the Little, and a second Tchernaja.

The Great Gorbitza, or Amagar, which flows into the Amúr, was considered by the Russians to be the boundary intended by the Treaty, while by the Chinese the smaller river of that name was declared to be so. The Chinese pretensions were, however, originally much greater, and extended over the whole basin of the Amúr, including Nertschinsk, as well as the chain of mountains from which the Gorbitza flows; as, however, this range of mountains (the Jablonoi and Stanovoi) extends to the Sea of Okhotsk, the shores of which had for a long time been in the possession of Russia, the negotiations were broken off by the Russian Plenipotentiary.

The Jesuit diplomatists having, however, succeeded in

explaining to the Chinese Envoy that such demands were unreasonable, since they would necessitate the cession of Kamschatka as well as Nertschinsk, to which the Russians could never agree, they were subsequently withdrawn. On the other hand, the Russian Envoy gave up his claim to the left bank of the Amúr and to Albazin, which was still held by a Russian force.

The frontier was finally defined by this Treaty as being formed towards the East by the Jablonoi and Stanovoi mountains in such wise that all the rivers flowing from those mountains into the Amúr were to belong to China; the frontier with regard to the Rivers Ud and Tugur, which flow into the Sea of Okhotsk, being left undefined.

By the terms of this Treaty free trade was for the first time established between the two countries; Russian caravans were allowed to proceed to Peking, and Russian traders to carry on their commerce at the Chinese capital. The jealousy of the Chinese Government, however, rendered the conditions of this Treaty impracticable, and the trade was placed on a different footing by a Treaty signed at Kiachta in 1728, according to which Russian traders were no longer allowed to enter China, but freedom of barter was established at Kiachta and at Tsouroukaitou, and the Russian company of traders formed at Kiachta retained the right of sending a caravan to Peking every three years.

The Chinese having in the meantime subdued and annexed Dzungaria, the opportunity was taken of defining in this Treaty the frontier of that new territory where it touches the Russian border, and pickets were established along it; no attempt, however, was made by the terms of this Treaty to define the frontier posts from the Gorbitza eastwards; and the Russo-Chinese frontier as determined by this Treaty, and the previous one of 1689, was considered to be fixed as follows. Taking the line of the Lower Argun to its junction with the Schilka, it was carried 180 versts up the Schilka to the mouth of the Little Gorbitza up that stream to its source, and from thence eastward along the watershed between the territories watered by the Lena on the north, and the Amúr on the south of the Stanovoi range as far as the Sea of Okhotsk, in latitude north 54° 14′. The country between the Ud and the mouth of the Amúr was left undefined, but, according to those favourable to the pretensions of Russia, the River Ud, which falls into

the bay of the Schantar Islands (Sea of Okhotsk), was considered to be included within the Russian frontier. The supplementary Treaties of 1768 and 1792, by which the commercial relations which had been broken off were renewed and finally established on a regular footing, have been already referred to in the first part of this paper. These Conventions, however, did not change the frontier limits, and the Amúr remained a Chinese river, from which Russians and all Europeans were excluded.

When these Treaties were signed, however, it would seem that both parties were ignorant of the geography of the Stanovoi and Jablonoi mountains.

Very little was heard of the Amúr for the next sixty or seventy years; but in 1844 and 1845 the enterprizing traveller, Middendorff, undertook an expedition to the Amúr, on which occasion he found the Chinese frontier marks not placed as was supposed along the summit of the Stanovoi range, but much further to the south on the southern slopes of those mountains, so that, as he says, at least, 5,000 square versts to the south of the Stanovoi range might be coloured Russian on the map.

Since Middendorff drew this frontier line, Russia has incessantly pushed forward her border southwards, and her dominion at present extends, not only on the left bank throughout the whole length of the Amúr, but she has several establishments on its right bank; the territory of which Russia has now undoubted possession between the left bank of that river and the frontier defined by the Treaties of 1689 and 1728, being about twice the size of Great Britain.

Though little known or cared for in Europe, the Amúr was looked upon in Eastern Siberia as the promised land, not only on account of its fertility and the mildness of its climate, but from the prospect of its becoming a great highway of commerce, it being the only Siberian river not flowing into the Frozen Ocean; it was, therefore, natural enough that the possessors of Eastern Siberia should look forward to the annexation of the Amúr, and prepare for its conquest.

No decided step was taken in that direction, however, until 1847, when Nicholas Muravieff became Governor of Eastern Siberia, and left no stone unturned in endeavouring to obtain for Russia the possession of the Amúr. With this view measures were taken for exploring the river from the sea; an expedition was sent in 1850 to the Gulf of

Tartary, and in 1851 the mouth of the Amúr was discovered, and the station of Nicolaiefsk was built on the left bank of the river, 40 versts above its embouchure.

In 1853 the post called Alexandrowsk was built in the Bay of Castries, and that of Mariinsk was established on the right bank of the Amúr, at its junction with Lake Kisi; owing to the peculiar conformation of the river at this point, where it makes a sudden bend to the north, Mariinsk, although 320 versts from the mouth of the Amúr, is but a short distance from the sea, the east end of Lake Kisi, with which the river is connected, being only 15 miles from the coast. Another very important station was built on the right bank of the river at Sofiefsk, a little above Mariinsk, which, by means of a railway projected in 1851, will be connected, if it is not so already, with Alexandrowsk on the sea-coast at Castries Bay.

The upper course of the river was simultaneously explored by Muravieff.

On the 15th May, 1854, a flotilla of rafts and 50 boats, accompanied by a steamer, with 1,000 Infantry, some Cossacks, and a few guns, left Schilka Sawod and descended the river, reaching Mariinsk on the 15th June, from whence in the autumn of the same year Muravieff returned with a portion of his force to Irkutsk by Ajan. In the spring of 1855 all the civil, military, and naval officers belonging to the Government of Kamschatka, as well as the squadron from the Sea of Okhotsk, arrived at the Amúr, and Nicolaiefsk was made the head-quarters of the naval, and Mariinsk that of the military forces.

In the course of this year three expeditions left Schilka Sawod, the first of which, under the command of Muravieff, consisted of 3,000 troops, 500 colonists with their cattle and horses, guns, ammunition, agricultural implements, and provisions of all kinds; on arriving at the mouth of the Amúr the men set to work and erected with great rapidity fortifications and buildings of all kinds. The Chinese did not attempt to oppose these expeditions, but the guards at their stations on the river merely took note of the number of vessels that passed, as if to mark the authority of China

In 1855 the post of Mariinsk, or Kisi, which in 1854 only consisted of two blockhouses, had extended for nearly three versts up the right bank of the river, and was defended at either extremity by a battery; the place was

drained, shops were opened, and postal communications were established by means of Cossacks with Fort Alexander on Castries Bay, and with Nicolaiefsk at the mouth of the Amur.

Between Lake Kisi and Nicolaiefsk four Russian villages were built and settled by the colonists, while in the Majo arm of the Amúr, 50 versts above Nicolaiefsk the six vessels belonging to the Russian squadron that had escaped from Kamschatka found a safe harbour.

Nicolaiefsk, which in 1854 counted only 10 houses, contained in the following year 150 buildings, of which 120 were private property, an assembly room with a library, a bath, and two schools, one of them being the Cadet School from Petropavlovsk in Kamschatka. A schooner had already been built in the harbour, and the approaches from the sea were defended by three batteries, each of 30 guns, which were built at a distance of 7 versts from each other.

In this year, also, the first foreign vessels visited this country, three American merchant ships, one of which reached Nicolaiefsk in safety, the second sank at the mouth of the river, while the third cast anchor in Castries Bay.

In 1856, during the absence of Muravieff at St. Petersburg and on the Continent, General Korsakoff, Governor of the Trans-Baikal Provinces, conducted the expeditions down the Amúr; between Kisi and Nicolaiefsk several new Russian settlements were established, and along the whole course of the river, from its mouth to its upper course in Russian Dauria, Cossack pickets were stationed for the purpose of keeping up postal communications with Siberia. In the course of this year three steamers, built for the Russian Government at New York, arrived at Nicolaiefsk, two of them being destined for the navigation of the river, and the third for the Gulf of Tartary, and began their voyages; several merchant vessels also arrived from California, freighted with every description of goods required by the colonists.

On the 31st October of the same year the Government of Kamschatka and the territory of Amuria were united under the name of the Maritime District of Eastern Siberia; the Governor-General of this district, whose residence is at Nicolaiefsk, having under his command not only the flotilla and harbours of the Pacific, but a military staff, and a

chancery for the civil administration of the territory under his authority.

The maritime district of Eastern Siberia consists of four divisions, those of Nicolaiefsk, Petropavlovsk, Gishiga, and Udsk. As long as Petropavlovsk in Kamschatka was the head-quarters of the Russian squádron, it might almost be said to be in another quarter of the globe, and a vessel from Cronstadt had to make a voyage nearly round the world to reach it; but Nicolaiefsk, being in direct communication by the Amúr with Irkutsk, a journey or an order to head-quarters is now greatly shortened.

In 1857 the number of Russian colonists had considerably increased, and the Russian settlements extended to the Ussuri.

In 1858 the official union of Russian Amuria with the Empire was accomplished.

Already in 1857 Admiral Putiatin had been sent from St. Petersburgh to endeavour to obtain from the Chinese Government the cession of that territory, but he was neither allowed to proceed from Maimatchin, nor from Shanghae to Peking. The hostilities which had broken out between China and Great Britain in 1856 were brought to an end by the Treaty of Peace, concluded June 26th, 1858, at Tien-tsin, by which China was opened to European trade; but on the $\frac{16}{28}$th May of that year Muravieff had already succeeded in obtaining from China, by a Treaty signed at Aigunt (Sachalin-Ula-Choton), the cession of the left bank of the Upper and Middle Amúr, and both banks of the Lower Amúr, as well as the privilege of navigating the Chinese rivers flowing into it from its right bank.

The value of this most important stipulation is evident, for while one of these rivers, the Ussuri, rises in the Sihoti-Alin Mountains, which skirt the coast of the Pacific near the Corea, the Sungari, which rises in the Shangpeh-Shan Mountains, which form the northern boundary of the Corea, has a tributary, the Itun, which crosses the "palisades," or barrier of stakes, in continuation of the great wall, and is in close approximation, if not connected, with the Lean-Ho River, which falls into the Leau-tung Gulf, or northern portion of the Gulf of Petcheli.

The right thus acquired of navigating these Chinese rivers flowing into the Amúr, was immediately exercised, for in 1858 a surveying expedition proceeded up the

Ussuri, and Captain Weniukoff ascended that river to its south-western sources, and from thence reached the sea coast at Vladimir Bay. In 1859 the botanist Maximovitch went up the Sungari to within 50 versts of Sansin, beyond which, however, he could not penetrate, having been compelled to return by the hostile attitude of the inhabitants.

The Convention of Aigunt of $\frac{16}{28}$th May, 1858, was ratified by the Treaty concluded at Tien-tsin by Admiral Putiatin on the 12th June of that year.

Muravieff, who received in August the title of Count Amurski, had laid the foundation of the town of Blagovestchensk, at the junction of the Zeja and the Amúr, in the month of May, before the signature of his Treaty; and shortly after, the town of Sofievsk (already referred to) was built on the right bank of the Lower Amur, a little above Mariinsk.

By an Imperial Ukase, dated $\frac{8}{20}$th December, 1858, the newly acquired territory was divided into two Governments: the first, consisting of the districts of Nicolaiefsk and Sofievsk, with Kamschatka and the Russian Asiatic territory along the Pacific, called the maritime district of Eastern Siberia; and the second, consisting of the middle course of the river, called Amuria, which embraced the left bank of the Amúr from the mouth of the Argun to that of the Ussuri, with Blagovestchensk as the residence of its Governor. A third division of the river was also formed by the upper course of the Amúr from its source in Russian Dauria, and was included in the Trans-Baikal Government which was detached from that of Irkutsk, to which it had formerly belonged, on the 11th July, 1851.

Besides the natural advantages of this great territory, abounding in mineral wealth, covered with magnificent timber, and affording millions of acres of arable and pasture land, a fluvial communication is said to be all but established between the Pacific and the Baltic. With the exception of occasional rapids and shallows, in all, perhaps, 20 miles, the Schilka, one of the principal tributaries of the Amúr, is navigable to the foot of the Jablonoi range, which, in this direction, is of no great elevation, and abounds in forests of oak, and mines of iron ore; from this point a road would be required to the Selenga, a navigable river falling into Lake Baikal, whence, according to calculations that have been made, 266 miles of canal and road are all

that would be required to open the communication with the Baltic.

The great drawback to this magnificent possession is, that it is almost uninhabited, the native tribes of the Mangunes, Goldi, Giljak, and others scattered along the river, numbering scarcely 8,000, while the Mandchoos, Daurians, and Chinese are reckoned at 50,000.

The want of a civilized population is most severely felt, and cannot be supplied from the neighbouring Russian Governments, which are themselves too sparsely populated to permit of an emigration from thence. The Trans-Baikal provinces, which are the most populous, contain 35 souls per square mile. The population in the Government of Jenissei is only six to the square mile, while in the Government of Yakutsk there are three, and in Kamschatka there is only one soul to a square mile.

As the Amúr has hitherto been used by the Chinese Government as a place of banishment for criminals, it is not easy to induce the inhabitants of the Chinese provinces to emigrate to that river. There is, it is true, a vagrant population, called "Manzes," consisting chiefly of runaway Chinese, who have fled from justice or the persecution of their own officials, who form themselves into gangs or companies, but who live without laws or government of any kind; it was supposed, as the country presented every facility for agriculture, that these people might be induced to cultivate the soil, but they were found utterly unfit for work, and, as they were never accompanied by women, they were useless as settlers. There is, however, one race from which it is expected that this region will reap great benefit, the Coreans, an industrious and agricultural people, to whom the Russian authorities offer every advantage for emigration. In 1863, twenty Corean families, with their herds and cattle, came from the neighbourhood of the town of Hun-chun, which is situated on the Chinese and Russian frontier of the Corea, and established themselves near Possiet Harbour, at Novgorod station, the commander of which allotted them a piece of ground which they selected themselves, and immediately tilled, and upon which, in the course of the year, they had succeeded in growing corn. Shortly after 100 families announced their intention of settling on Russian territory, and as they require scarcely any material assistance, and are industrious and equally as good agricul-

turists as their neighbours the Chinese, every encouragement has been given to them to do so.

With the competition offered by the United States there is little chance of attracting European emigration to the Amúr, but in 1860 the Russian Government determined to form an army of Cossacks of the Amúr, and military colonies were settled along the whole line of the river from Schilka to Ussuri, serving at the same time as agriculturists, and as an armed force for the defence of the newly acquired territory; their number is stated to be from 15,000 to 20,000.

In 1859, thirteen merchant-vessels entered the mouth of the Amúr, the united cargoes of which were valued at 1,014,668 roubles.

The following itineraries in this newly acquired Russian territory are given by a Hamburgh merchant engaged in trade between California and the Amúr, who passed a year at Nicolaiefsk, and returned to Germany by Siberia and St. Petersburgh.

The distance from Nicolaiefsk to Schilkinski Sawod is 2,957 versts.

The following are the stations :—

	Versts.	Versts.
From Nicolaiefsk to Michaelefsk	160	
Michaelefsk to Mariinsk	160	
		320
From Mariinsk to Gorinskaya, 9 stations, occupied by Infantry of the Line, viz. :—		
Mariinsk to Sofievsk	28	
Sofievsk to Elisevskaia	25	
Elisevskaia to Feodorowskaia	25	
Feodorowskaia to Schachmata	15	
Schachmata to Jerebow	25	
Jerebow to Letwinzow	25	
Letwinzow to Schelechow	23	
Schelechow to Tschurinow	27	
Tschurinow to Gorinskaia	20	
		213
From Gorinskaia there are 18 stations to Chabarowka, or Buri on the Ussuri, which are occupied by Infantry of the Line, they are as follows :—		
Gorinskaia to Tchenko (Choro) ..	22	
Tchenko to Belgo	20	
Belgo to Mutki	20	
Mutki to Zunda	38	
Zunda to Chingari	20	
Chingari to Moe	30	
Moe to Tschuloza	20	
Tschuloza to Chabarowka 11 stations, or together	203	
		373

	Versts.	Versts.
From Chabarowka to the mouth of the Ussuri ..		40
From the mouth of the Ussuri to Radde (Chingan) 18 stations of Infantry of the Line, viz.:—		
From the Ussuri to 1st station	25	
1st station to Shapkaja	25	
Shapkaja to Lugow	24	
Lugow to Pembrowokaja	22	
Pembrowokaja to Vosnesenskaja ..	20	
Vosnesenskaja to Golowin	28	
Golowin to Stefanow	9	
Stefanow to Voskresenskaja	18	
Voskresenokaja to Michaelsemenow ..	21	
Michaelsemenow to Dischnew	42	
Dischnew to Krassinino	15	
Krassinino to Dobro	34	
Dobro to Nagibovskaja	18	
Nagibovskaja to Pismo	16	
Pismo to Nicholskaja..	26	
Nicholskaja to Polikarpowskaja.. ..	32	
Polikarpowskaja to Pompeyefskaja ..	28	
Pompeyefskaja to Radde	38	
		441
From Radde to Ust Seja (Blagovestschenok) 10 stations of Cossack cavalry, viz.:— ..		
Paschkow		
Kasatkina		
Inskentiewskaia		
Skobelzyn		390
Kuprianow		
Litschewskaja		
Konstantinow		
Nismennaja..		
Ust Seja		
From Ust Seja to Ust Strelka 14 stations held by Cossacks, viz.:—		
Ust Seja to Narazum..	80	
Narazum to Ulussurnuddan	80	
Ulussurnuddan to Kamara	63	
Kamara to Uminskaja	80	
Uminskaja to Anosow (Zagagan) ..	80	
Anganskaia (Kusnezow) .. .		
Wolginskaja		
Burunda	250	
Panga		
Albazin		
Swerebejew..		
Scribenew	237	
Ignaschow		
Ust Strelka..		
		870
From Ust Strelka to Gorbitza there are no fixed stations, distance		240

	Versts.	Versts.
From Gorbitza to Schilinsk-Sawod, 3 stations:—		
Gorbitza to Tchornaja	20	
Tchornaja to Koularka	16	
Koularka to Schilka	34	
		70
Total		2,957

The distance from Ajan, on the Sea of Okhotsk, to Irkutsk, is given as follows:—

	Versts.
From Ayan, 5 stations, to Mayo	208
Mayo, 5 stations, to Ust Mayo	576
Ust Mayo, 13 stations, to Yakutsk	356
Yakutsk, 117 stations, to Irkutsk	2,963½
Total	4,103½

The distance from Nicolaiefsk to Irkutsk is as follows:—

	Versts.
From Nicolaiefsk to Schilkinski-Sawod as above ..	2,957
Schilkinski-Sawod, 4 stations, to Stretjinsk ..	95½
Stretjinsk, 3 stations, to Bjankina	73
Bjankina, 10 stations, to Tschita	297
Tschita, 15 stations, to Verchne-Udinsk ..	128
Verchne-Udinsk, 6 stations, to Posoloskoje on Lake Baikal	139
Across Lake Baikal to Liswinishnaja	110
Liswinishnaja, 3 stations, to Irkutsk .. .	61
Total	4,160½

At Stretjinsk a harbour has been projected for the Upper Amúr, with dry docks, wharfs, &c.

The Amúr is considered to be navigable as far as Ust-Seja for steamers drawing 4 feet of water, but in 1858 the "Lena," drawing 3½ feet, was continually aground; from thence to Tschita no vessels can be used which have a draft of more than 2 feet. A small screw steam-launch, of only 8-horse power, was employed by Colonel Uschakow in ascending the river from Tschita, but at Chingan he was obliged to leave it and proceed in the canoes of the natives.

According to an advertisement that appeared in a paper published at Irkutsk, called the "Amúr," the owners of the steamer "Kosakevitch" undertook to convey goods and passengers, during the summer of 1860, from Nicolaiefsk to Schilka. The fares for passengers were: from Nicolaefsk to Kisi, 25 roubles; to Chabarowka, 75 roubles;

to Blagovestschensk, 125 roubles; to Ust-Strelka, 175 roubles; and to Schilka, 200 roubles, half-price being charged for the return-trip from Schilka to Nicolaiefsk. This undertaking, however, does not seem to have answered; and there is reason to believe that the shallows and sand-banks of the Middle and Upper Amúr render steam-navigation so difficult in those regions that it will be confined to the Lower Amúr.

Besides the Russian-American Company (which was founded in 1799, with a capital of 1,122,000 roubles) whose principal station was at Ajan, on the Sea of Okhotsk, another Company was formed, in 1858, called the Amúr Company, with a capital of 3,000,000 silver roubles, for the purpose of carrying on trade between the Russian ports on the Pacific and of establishing communications by means of sailing- and steam-vessels on the Amúr and on the Schilka.

Trade is carried on by means of these Companies with China, Japan, and the United States; and, although it will be long before the exports from the Amúr can be of any importance, there is every prospect of a considerable import trade being established, not only along the Amúr, but with Irkutsk, where the high prices of colonial wares will render a traffic in those articles very remunerative.

Treaty of Kuldja.

The nature of the Treaty of the 25th July, 1851, by which commercial relations were established between Russia and the Western Provinces of China, has been already described in the second part of this Report. The regulations by which the caravan trade is conducted are contained in the following Articles of that Treaty:—

I. Kuldja (Ili) and Tchongutchuk (Tarbagatai) are designated as the two places in the Chinese Western Frontier Provinces from which trade is permitted to be carried on with Russia.

II. Entire freedom is left to the merchants of both countries with regard to the terms on which the barter-trade is to be established. Russian subjects to be placed under the surveillance of a Consul; Chinese subjects under that of the chief authority of the Province of Ili. Cases of dispute arising between Russian and Chinese subjects to be decided by these authorities.

III. No import duties to be levied on goods entering either country.

IV. Russian traders to be accompanied by a Syndic ("Caravanbasha") to the town of Kuldja, to the Chinese post of Borschudjir, and to Tarbagatai. On reaching the first Chinese post, the Syndic delivers to the officer commanding it an official list, signed by the Russian authorities, of the number of men, cattle, and bales of merchandize forming the caravan. After verification of the same, the caravan is allowed to proceed, accompanied from one post to another by an officer and guard of soldiers. All molestation of the traders by the soldiers, and disputes between them and the traders, are strictly forbidden.

V. In order to facilitate the service for the officers and soldiers charged with this duty, Russian merchants are forbidden to travel on any other roads than those under surveillance.

VIII. The period fixed for the arrival of the Russian caravans at Kuldja, is from the 25th March to 10th December, after which the caravan traffic ceases.

If by chance any portion of the merchandize brought by the Russian traders has not been sold within the fixed term of eight months and a-half, the merchants are allowed to prolong their stay in the Chinese towns above mentioned for a certain period, after which the Consul must provide for their departure.

Russian traders having only 20 camels laden with merchandize are not accompanied by a guard.

If the Consul or a Russian merchant desires to send an express by post, no matter for what cause, he is at liberty to do so, but only within the limits under surveillance, and not oftener than twice a-month.

IX. Russian and Chinese merchants may communicate freely with each other on matters of business; and the Russians, when furnished with tickets from the Consul, may circulate in the streets and suburbs of the town, but without such a ticket they are not permitted to quit the precincts of the Commercial Court or Bazaar.

XI. As Russian traders are most probably provided with horses or camels, a place will be assigned to them for their beasts of burden in the neighbourhood of the Town of Kuldja on the banks of the River Ili, and in the environs of Tarbagatai, in spots where pasture and water are to be

found. The Russian merchants to take charge themselves of their cattle and beasts of burden.

XII. The merchants of the two Governments are not allowed to trade on credit. Should this rule be contravened, no cognizance will be taken by the Russian or Chinese authorities of any claims put forward by merchants of either country arising from such transactions.

XIII. The Chinese authorities in the two trading cities Ili and Tarbagatai, will designate spots near the Commercial Court or Bazaar, where Russian subjects may build at their own expense a house and warehouses.

XV. If the Russian traders bring sheep with them to Kuldja and Tchongutchuk, as articles of barter, the Chinese authorities have the right of purchasing, for the benefit of the Crown, two out of every ten sheep, giving in exchange for each sheep a piece of cloth; the remainder of the cattle and every description of merchandize may be freely exchanged between the subjects of the two countries without any interference whatever on the part of the Chinese Government.

Treaty of Aigunt.

By the 2nd paragraph of the Commercial Treaty of Aigunt, signed 16th May, 1858, reciprocal free trade is established between the subjects of both Empires on the Rivers Ussuri, Amúr, and Sungari; and the respective chiefs on the frontiers of the two Empires are entrusted with the protection of the Russian and Chinese traders.

Treaty of Tien-tsin.

By the Treaty signed at Tien-tsin, July 1, 1858,

I. All former rights conceded to Russia are confirmed and recognized.

II. The Russian Government have the right of sending Missions to Pekin as often as they may think it advisable to do so.

III. Trade between Russia and China established not only by land but by sea. Russian vessels allowed to trade at the Ports of Shanghae, Ningpo, Foochow, Sianim, Canton, Taiwanfoo (on the Island of Formosa), Tsiomitchow (Kungchow) (Hainan), and all ports opened to foreign trade.

IV. In the overland commerce no limit is placed on the number of traders, quality of merchandize, or amount of

capital engaged in it. In the commerce by sea, Russian vessels to conform to the regulations affecting foreign vessels in Chinese ports. In cases of contraband, the property of Russian subjects may be seized and confiscated.

The Russian Government has the right of appointing Consuls in all the ports above-mentioned, and of sending men-of-war into those ports for the protection of Russians, for the purpose of maintaining order amongst them and to support the authority of the Consuls.

VI. Russian merchant vessels and men-of-war, in cases of shipwreck or distress, and when in want of provisions, may put into other ports than those above-named as being open to foreign trade. Russia is placed, as regards maritime trade, on the footing of the most favoured nation.

Treaty of Pekin.

By the final Treaty of Pekin, concluded on the 2nd November, 1860, all the rights and privileges accorded to Russian merchants in their trade with China by former Treaties are confirmed.

IV. Along the whole line of frontier designated in the 1st clause of the Treaty, free trade may be carried on between the subjects of both countries without payment of duties of any description. The commerce and traders of both countries are placed under the protection of the authorities of their respective Governments. The privileges accorded by the IInd Article of the Treaty of Aigunt, relating to commerce, are confirmed.

V. Besides the commerce existing at Kiachta, the ancient privileges of trade between Kiachta and Pekin, are recognized. Russian merchants are also free to trade on the road to Ourga, but are not permitted to carry on wholesale trade at that place.

A Russian Consul may be established at Ourga with his requisite staff, and he is permitted to build a house there at his own expense. The necessary arrangements concerning the donations of land, the dimensions of the buildings to be erected, right of pasture, &c., to be settled with the authorities of Ourga.

Chinese merchants are allowed to enter Russia if they require to do so for purposes of trade, and Russian merchants are at all times free to enter China on business, provided there are not more than 200 in the same spot.

Such traders must likewise be furnished with two tickets from the frontier authorities stating the name of the Syndic of their caravan, the number of men forming it, and its object and destination. On the road the traders are permitted to make any sales or purchases they choose at their own risk and expense.

VI. By way of experiment the trade with Kashgar is opened on the same conditions and bases as that of Ili and Tarbagatai. At Kashgar, the Chinese Government agree to provide sufficient land for the establishment of a commercial factory, and the dependencies required for dwelling-houses and warehouses, as well as land for a burying-ground, and the requisite pastures on the same footing as at Ili and Tarbagatai.

The Chinese Government is not responsible for the plunder or destruction of Russian property that may occur at Kashgar, if such acts are commitied by persons coming from beyond the Chinese frontier.

VII. Russians in China and Chinese subjects in Russia are at liberty, in all places open to commerce, to trade freely with each other, without interference from the authorities of the place in which they may happen to be; to frequent all shops and markets, as well as the private houses of merchants, to buy and sell every description of merchandize, wholesale and retail, paying for the same in coin, by barter, or in bills of exchange, or on credit, as may suit them best and according to reciprocal confidence, nor is any limit fixed for the residence of merchants at the places appointed for trade, the duration of which depends upon their own free will.

VIII. Russian merchants in China and Chinese merchants in Russia, are placed under the special protection of the two Governments, with the view of preventing any misunderstandings that might arise between them and the subjects of the country in which they reside. The Russian Government has the right of immediately appointing Consuls at Kashgar, and Ourga on the same terms as those of Ili and Tarbagatai. Differences that may arise between Russian and Chinese subjects on questions relating to their mercantile transactions, are to be settled by arbitrators chosen from amongst themselves; the Consuls and local authorities may act as mediators, but are in no way responsible for claims that may arise out of the settlement of such disputes. The merchants of the two Governments are at

liberty to enter into engagements by writing for the hire of houses, shops, stores, &c., or with reference to orders or contracts; these engagements to be legalized by the Consuls and local authorities who, in cases of failure to fulfil such written engagements, will have the right to enforce their due execution.

XIV. If at any time it should appear that any Article of this Convention is disadvantageous to the trade of either country, the Governor-General of Eastern Siberia is authorized to come to an understanding with the Chinese frontier authorities with a view to obviate the same, always adhering, however, to the sense of the above conditions.

By the XIIth Article of the Treaty of Tien-tsin, Russia is placed on the footing of the most favoured nation.

By a separate Convention, dated Pekin, 20th February, 1862, the following supplementary regulations were agreed to with reference to the overland trade between China and Russia:—

1. Along the frontiers of the two Governments, and for a distance of 100 li on either side, freedom of commerce is established without payment of dues of any kind, regard being had, however, to frontier regulations.

2. Small Russian traders are permitted to carry on traffic throughout Chinese Mongolia without payment of duty wherever there are Chinese officials; if they wish to proceed to some place where no Chinese authority resides, they are at liberty to do so, but such traders must be furnished with certificates, signed by the frontier authorities in the Russian, Chinese, and Mongolian languages, stating the name of the trader, the amount of merchandize, and the number of bales, camels, oxen, and horses he may have with him.

If the traders are not provided with such certificates their goods will be confiscated for the benefit of the Chinese Government, and they will be treated as deserters, according to Section X of the Treaty of Pekin. It is the duty of the Russian Consul in Mongolia to see that this stipulation is scrupulously attended to, and that no Russian subjects shall carry on trade without such certificates.

3. Russian merchants proceeding to Tien-tsin with Russian merchandize must be furnished with papers in the languages of the two Governments, signed by the frontier authorities. In these papers must be stated the name of the Syndic or Chief of the caravan, the names of the traders

composing it, the nature and quantity of the merchandize, and the number of bales. These caravans are required to follow the direct route by Kalgan, Dunba, and Tonjoi.

The Chinese authorities at all the Custom-houses have the right of verifying the number of bales, taking and examining them at their own selection. After examining the certificate the seal of the Custom-house is attached to it, and the merchandize is allowed to proceed.

Within the period of six months this certificate must be presented at the Custom-house of Tien-tsin to be destroyed. When, in the course of examination at a Custom-house, bales of goods are opened, they must be closed by the Customs officers, and the number of bales thus examined, must be noted in the certificate. The examination of goods must not extend beyond two hours.

In the event of certificates being lost the goods are not allowed to proceed, the caravan is stopped (prekratchaiout), and the merchants must give notice of the same without loss of time to the authorities who delivered the certificate, stating in the request for a fresh certificate, the number of the original, and the date on which it was issued; the authorities forwarding the fresh certificate to insert, for the facility of inspection, a notice to the effect that such certificate has been delivered a second time.

4. Russian traders in passing through Kalgan have the privilege of depositing there for sale the fifth part of the merchandize destined for Tien-tsin; information of such intention to be given within three days to the Director of the Customs at Kalgan, who after inspection of the goods gives a written permit for their sale. Russian merchants are not allowed to establish large warehouses at Kalgan, or to sell otherwise than in retail.

5. On reaching Tien-tsin the duty levied on Russian goods to be one-third less than the ordinary European Tariff, the same duty to be paid by the fifth part of the merchandize left at Kalgan.

6. If the goods left at Kalgan, after having paid this duty, cannot be sold there, they may be conveyed to and sold at Tonjoi, or at Tien-tsin, without paying any further duty.

7. If on inspection of the goods by the Chinese Customs' officers, it should appear that the bales have been opened and other goods substituted for those they originally contained, if more than one-fifth of the goods have been

left for sale on the road, or if the route followed by the caravan has not been that prescribed according to Section III, such merchandize may be confiscated for the benefit of the Crown.

8. Russian goods conveyed by sea from Tien-tsin to other ports opened to foreign trade, to pay the remaining one-third of the duty not levied on entering Tien-tsin by land, which will thus amount to the Tariff duty for European goods; no further duty to be levied at those ports on such goods. Russian merchandize conveyed from Tien-tsin to the interior to pay transit duty according to the European Tariff.

9. Russian merchants trading at ports opened to foreigners, whether importing or exporting Chinese or European goods, to be subject to the general rules laid down for foreign maritime commerce.

10. Chinese produce purchased at one of the ports open to foreign trade, and imported into Russia by Tien-tsin, in addition to the duty fixed by the general European Tariff, which is levied at the first port, pays at Tien-tsin an additional half *return import* duty ("obratno voznaia"). These goods are afterwards passed at Kiachta by a certificate from the Russian Consul at Tien-tsin, drawn up in the languages of the two countries, in which is stated the name of the trader, &c., and which directs that only one route be followed, that specified in section 3; a penalty of confiscation attaches to the sale of goods on the road.

On passing the Custom-houses at Tonjoi, Dunba, and Kalgan, the rules laid down in Section 3, with reference to the inspection of goods, are to be followed.

11. Chinese goods purchased by Russian merchants at Tien-tsin or Tonjoi pay an export duty on quitting Chinese territory by land equal to the export duty levied according to the general European Tariff, a certificate of the same is delivered to the trader, the goods are not to be sold *en route* under penalty of a fine.

12. Chinese goods bought at Kalgan by Russian merchants pay on entering Russia an import duty equal to half the duty levied by the European Tariff, a certificate of the same to be delivered to the trader, the goods pay no further duty, but must not be sold *en route*.

13. Prior to the despatch of goods by Russian merchants from Tonjoi application must be made to the Custom-house at Dunba, from which, after payment of the

dues, a certificate is issued of the quality and quantity of the goods, number of packages. &c.

14. European merchandize forwarded to Russia viâ Tien-tsin or other ports pays no further dues if provided with a certificate of the import and transit dues having been paid by merchants of another country. If the foreign merchant has only paid the import dues the Russian merchant engages to pay the transit dues according to the general European Tariff.

15. Goods sent to Russia by Russian merchants from Tien-tsin, Tonjoi, and Kalgan must be accompanied by a certificate of inspection. Six months after the despatch of the goods the certificate must be presented at Kiachta to be destroyed. Should anything occur to prevent this, the merchant, before the expiration of the term, must inform the Russian Consul of the circumstances under penalty of a fine. If the certificate is lost, the goods are not allowed to proceed, and the trader must give immediate information of the same to the Custom-house from which he received the certificate, mentioning in his request for a fresh one the number and date of the original, and in the fresh certificate notice must be taken of the fact of its having been delivered a second time.

16. With reference to the articles mentioned in Section 2* of the Regulations annexed to the General European Tariff, Russian merchants importing goods by land conform to those Regulations.

17. Contraband and prohibited goods, mentioned in Rules 3 and 5 of the same Agreement, to be confiscated for the benefit of the Chinese Government. Merchants desiring to carry arms for their own defence must make a declaration to that effect at Kiachta, and this must be stated in the certificate. Each member of a caravan is entitled to carry one weapon.

18. Russian and Chinese goods not enumerated in the Tariff pay an *ad valorem* duty of 5 per cent. In order to obviate any difficulty that may arise in levying this duty a Tariff will be drawn up at Tien-tsin for Russian goods entering China which are not named in the General European Tariff, or cannot be assimilated to those therein mentioned, as well as for brick tea.

* See Rule 2 (*Duty free goods*) of agreement containing Rules for Trade, made in pursuance of Article XXVI of the English Treaty of Tien-tsin, of June 26, 1858. Signed at Shanghae, November 8, 1858.

The Tariff thus drawn up will form a supplement to the general European Tariff.

19. Russian merchants are prohibited from conveying from place to place (as if they were their own) the goods of Chinese traders.

20. These regulations are sanctioned for a period of three years by way of experiment (*i. e.* to February 1865), with the condition that if at the expiration of that term either party desires to modify them, notice of the same must be given within a period of six months to the other party.

If no such declaration is made, the regulation will continue in force for five years longer, at the expiration of which the same arrangement may be continued, notice of the same being given within six months. The two parties are, however, at liberty to come to an understanding reciprocally with reference to modifications of these regulations, if required, before the expiration of the three years.

21. The Chinese authorities may take such measures as they deem necessary for the suppression of smuggling.

(Signed) J. SAVILE LUMLEY.

Spain.

Supplementary Note by Mr. Lumley, formerly Secretary of Legation at Madrid, on the Spanish Wine Trade.

London, May 4, 1867.

As the regulation by which Her Majesty's Secretaries of Embassy and Legation are instructed to make periodical Reports on the industry, trade, and general statistics of the countries in which they reside no longer applies to me, I venture, on the cessation of that duty, to call the attention of Her Majesty's Government to a considerable improvement in a branch of British trade which I am led to believe is to a certain extent the result of a diplomatic Commercial Report.

I allude to the extraordinary increase in the importation of wine from Spain, and to what appears to be almost a new feature in that trade, the manufacture of the red wines of Spain, imported for the sake of rivalling port wine in the English market, and which is thus spoken of in the Report of the Commissioners of Her Majesty's Customs, published in 1865, pages 14 and 22 :—

"There is a considerable increase in the wines from Spain and France, and a falling-off in those from Portugal.

"Spain has, indeed, this year quite eclipsed her two great rivals, having sent us more than double the quantity we have received from either Portugal or France.

	Gallons.
Spain—Red wine	709,854
White wine	7,081,033
Total	7,790,887
Portugal	3,344,871
France—Red wine	1,781,611
White wine	941,589
Total	2,723,200

"The red wines from Spain, manufactured and imported for the sake of rivalling port wine in the market, have

risen from 569,071 gallons in 1863 to 709,854 gallons in 1864; an increase of nearly 25 per cent. Being cheap and of considerable strength, these wines have found favour in the market, and the consumption, like the import, has considerably increased in 1864 as compared with 1863."

Without wishing to lay undue stress on the circumstance, I may state that I have been informed by wine merchants of great respectability engaged in the Spanish wine trade, that on the appearance of the Blue Book on the Vine Disease, which was published in 1859, my Report was taken by them and by other merchants connected with the wine trade of Spain, as a text-book in some sort for future operations.

In that Report, which contained much information of a reliable character never before published, not only with regard to a number of cheap and excellent white wines, but especially with regard to the red wines of Spain, many of which were entirely unknown, I called particular attention to the fact, that during the six or seven years of the existence of the vine disease in France, the greater portion of the wine sold under the various denominations of Bordeaux was manufactured from the strong red wines of Arragon and Navarre.

With reference to this fact, I pointed out that the exportation of Spanish wines into France, which in 1851 amounted to only 1,196 pipes, value 14,082*l.*, had increased in 1857 to 100,392 pipes, value 664,663*l.*, of which the larger proportion of 629,053*l.* was for common wine. I likewise mentioned that during the period of the existence of the vine disease, the wine trade of Portugal had been entirely sustained from the same prolific source and from the neighbouring provinces of Salamanca and Estremadura, the wine from the latter province being stronger and of a better quality than the Portuguese wines, without any admixture or composition whatever, besides being cheaper.

The information given in that Report respecting the wines of Arragon and Navarre, and others very little known, grown in the central provinces of Spain, as well as respecting the powerful quality and extraordinary cheapness of those wines, would seem to have attracted attention to them, and to the possibility of procuring direct from Spain wine answering in all respects to port wine but cheaper and of better quality, and thus to have paved the way to what has become a new branch in the Spanish wine

trade, as pointed out by the Commissioners of Her Majesty's Customs.

The extent of the improvement in this trade may be thus shown.

The latest return which I was able to obtain in Spain, and which was published in my Report, gave the amount of Spanish wine imported into Great Britain in the year 1857, as follows:—

	Gallons.	Computed Value.
		£
Spanish red wine	369,492	55,424
„ white wine	4,259,298	1,703,719
Total ..	4,628,790	1,759,140

Imports of Wine from Spain in 1864.

	Gallons.	Computed Value.
		£
Red wine	709,854	77,758
White wine	7,081,171	2,801,834
Total	7,791,025	2,879,592

This improvement continues to be on the increase.

I am aware of the stimulus given to the wine trade in general by the reduction in the wine duties, and this no doubt has been a great boon to Spain as it has been to other wine-growing countries; but, as that reduction established a differential duty bearing heavily on strong wines, its effect on Spanish wines, as compared with its effect on French wines, was considered unfavourable to the former; and yet in spite of this disadvantage the imports of Spanish wine have exceeded the imports of French wine in the extraordinary degree above-mentioned.

Should it therefore appear that the increase in the importation of wine from Spain, referred to by the Commissioners of Customs, and especially that of red wines (which in the period above-mentioned amounts to nearly 100 per cent.) may be attributed to an impulse given to that branch of the wine trade by information derived from the report to which I refer, this, I venture to submit, is practical evidence of a considerable benefit conferred on the commerce of Great Britain and of Spain, for which both countries

may be said to be indebted to the Earl of Malmesbury's Instruction of July 22, 1858, directing reports to be drawn up on the effect produced on commerce by the vine disease.

As such it may not be unworthy of notice, and will I trust be found a sufficient excuse for my having called attention to the subject.

(Signed) J. SAVILE LUMLEY.

REPORTS

BY

HER MAJESTY'S SECRETARIES

OF

EMBASSY AND LEGATION,

ON THE

MANUFACTURES, COMMERCE, &c.,

OF THE

COUNTRIES IN WHICH THEY RESIDE.

Presented to both Houses of Parliament by Command of Her Majesty.
August 1867.

LONDON:
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1867.

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Austria.

Report by Mr. Bonar, Her Majesty's Secretary of Embassy, on the Commerce and Finance of Austria.

Vienna, March 1, 1867.

Commerce.

THE commerce and trade of Austria have not progressed, but have sunk to the lowest ebb, during the last year. Whilst at the beginning of 1866 trade had already been disturbed, the spirit of speculation hushed, and the foreign commerce reduced to a state almost of stagnation by the menacing aspect of political events during the preceding periods, ruin has now come over almost every branch of industry in consequence of the disasters and misery entailed by the late unsuccessful war.

The years 1861 and 1862 belonged to the most flourishing periods of Austrian commercial history. The abolition in 1860 of the last fetters that had hitherto restricted the freedom of inland trade and intercourse, had given a new impulse to industry and emulation, and had placed the Austrian Empire on a footing of equality in the race of competition with the busy and intelligent commercial communities of Western Europe. But the advantage was of short duration, and the outbreak of the American war cast a first dark shadow over reviving Austria.

The cotton crisis, the closing of the American ports to Austrian production, the fourfold increase in price of the raw material, had combined to reduce, ere the close of 1864, the consumption of cotton in Austria to a fifth part of its former amount, and thrown a proportional number of industrial establishments and their numerous workmen out of employ.

The year 1863 had already opened the list of disasters. Unusually unfortunate harvests during that period of grain and of most other field produce in Hungary, inadequate crops of vine, together with visitations of murrain and

cattle plague, brought many branches of industry to a dead lock, almost to the verge of ruin. Whole districts were without means of subsistence, and made dependent upon the succour and subventions of the Government, so that the commencement of 1865 found the whole Austrian Empire incapable of profiting by the termination of the American struggle, and by the reopening of the markets of that rich and active community, with its constant demands for Austrian grain and sugar.

On such a position dawned the eventful year of 1866. Each week of that calamitous era increased the embarrassments of Austria; the dire catastrophe of July sealed her fate, and laid her, momentarily, prostrate. Not her brave armies alone had so unfortunately failed, despondency for a time was everywhere—commerce, industry, and trade were as if suspended.

The official Returns of the foreign commerce of Austria for the first three quarters, or from January 1 to September 30, 1866, show a notable diminution both in the imports and exports, observable especially for the months of June, July, August, and September.

In May and June, it was the menace of war; in September, the disasters of the past campaigns; and during the whole period the disturbance on all lines of communication, whether by rail or water; the consequent stoppage of inland trade, and of all industrial speculation; lastly, the daily fluctuations in the value of money—that produced the above unfavourable circumstances.

But even in the earliest part of the past year a serious disturbance of the foreign commerce of Austria, especially towards Germany, had been caused by the still recent modifications, of July 1865, of the Commercial Treaty with the Zollverein.

Imports.—In the imports of Austria an increase took place in 1866 in garden and field produce, especially grain; in medical and chemical substances; in precious metals; in woven stuffs, particularly of the coarser linen kinds; in leather and leather wares.

A decrease in the imports was observable in colonial produce—in tobacco and cigars; in fats and oils; in the inferior metals; in fuel, especially in coals (to the amount of 1,053,710 cwt.); in stuffs for wearing, and yarns.

Exports.—The exports, on the other hand, showed an increase on grain and pulse; on cattle for the shambles;

fats and fat oils; and metals. Whilst there was a decrease of exports in medical and chemical substances; perfumery and colouring matters; in stuffs for wearing, and tissues (sheeps' wool); in yarns, and woven and worked goods.

The total value of the foreign commerce of Austria for 1865 amounted to 601,300,000 florins; or, imports, 256,800,000 florins; exports, 344,500,000 florins;—showing an increase against 1864 of 23,100,000 florins; or, imports, 2,000,000 florins; exports, 21,100,000 florins. The value of the transit trade during the same period amounted to 115,600,000 florins, against 122,800,000 in 1864.

The value of the foreign commerce of Dalmatia (for which portion of the Empire the Tables are always compiled separately) amounted in 1865 to 19,200,000 florins; or, imports, 8,300,000 florins; exports, 7,400,000 florins; transit, 3,500,000 florins.

Comparing, however, the results of 1865 with those of ten years back, or 1855, we find the total value of Austria's foreign commerce to have increased by 136,000,000 florins; or, imports, 10,000,000 florins; exports, 126,000,000 florins.

It must be remembered, however, that in 1855, the rich Province of Lombardy was still attached to the Imperial Crown.

It would be difficult indeed without interminable study, perhaps after all of little value, to indicate precisely the proportion belonging to each of the several countries with which the very varied foreign commerce of Austria is carried on, but, in a general way, it may be shown by stating the amount of traffic registered at each particular frontier.

We find, accordingly, in the official Tables the following figures:—

Frontier.	Import.	Export.	Transit Trade.	
			Import.	Export.
South Germany	59·9	80·1	36·2	5·8
Saxony	86·5	81·6	21·1	4·6
Prussia	22·6	33·8	17·4	4·0
Russia	9·0	16·6	2·7	9·2
Turkey—				
Moldavia and Wallachia ..	12·7	29·5	0·4	24·7
Other frontiers	14·2	11·0	2·4	7·5
Italy	8·6	23·9	14·8	9·0
Switzerland	2·2	1·0	..	..
Trieste	30·4	53·0	14·7	36·5
Venice	11·7	8·6	5·3	13·7
Fiume and other ports ..	3·0	5·4	0·6	0·6
	256·8	344·5	115·6	115·6

Of which—

	Import.	Export.	Transit Trade.	
			Import.	Export.
By land	211·7	277·5	95·1	64·8
By water	45·1	67·0	20·5	50·8

The effect, however, of the last Commercial Treaty with the Zollverein, which came into force 1st July, 1865, cannot yet be adequately determined, nor that which must result from the falling away of the Kingdom of Venetia from the Austrian Empire. Approximately it is estimated that the latter circumstance will diminish by from 30,000,000 florins to 40,000,000 florins annually the foreign commerce of Austria.

Subjoined are detailed and authentic Tables of the Austrian imports and exports for the first nine months of 1866, compared also with the corresponding period of the preceding year:—

IMPORTS.

The Returns for Dalmatia are rendered separate from those of the rest of the Empire.

10 florins equal to £1 sterling.

Description of Goods.		Total of Imports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
1. *Colonial Products and Tropical Fruits.*					Florins.		Florins.		
Cocoa, raw, husks and shells	Cwts.	2,479	8	..	19,832	3,339	26,712	..	860
,, ground, cacao butter and paste ..	,,	12	..	..	126	20	210	..	8
Coffee, raw	,,	275,873	14,973	114	2,206,296	307,065	2,456,248	..	31,192
,, surrogates	,,	146	2	1	1,168	114	912	32	..
,, roasted	,,	5	1	..	52	4	42	1	..
Pepper, of all sorts	,,	4,522	391	1	36,167				
Pimento	,,	1,357	74	..	10,856	20,813	166,504	..	7,317
All other sorts of common spices	,,	7,617	467	3	60,936				
Vanilla	,,	13	..	..	205				
Saffron	,,	67	..	..	1,105				
All sorts of cinnamon	,,	1,420	46	..	22,365	6,144	96,768	..	1,720
Cloves and stalks of the same	,,	324	29	..	5,103				
Other sorts	,,	2,600	86	..	40,950				
Almonds	,,	6,834	1,300	..	35,878				
Dried grapes	,,	15,358	2,941	..	80,629				
Ananas	,,	6	..	..	31	51,653	271,178	..	7,648
From the Zollverein, exempt from duty ..	,,	6	..	..	..				
Kernels of pine-apples and cembras ..	,,	7	..	..	18				
All other sorts of fine tropical fruits ..	,,	21,794	3,701	7	121,418				
Dried grapes for the use of industry ..	,,	505	233	..	103	3,361	706	..	2,856
Dried figs	,,	24,255	5,091	8	63,791	97,643	256,763	6,820	..
All other sorts of middle fine tropical fruits .	,,	80,280	11,012	60	210,940				

Description of Goods.		Total of Imports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
					Florins.		Florins.		
Carob bean	Cwts.	17,217	3,245	95	13,774	37,187	29,748	258	..
All other sorts of common tropical fruits ..	,,	20,228	..	185	16,171				
Chestnuts imported from Sardinia	,,	601	..	..	469	107	84	..	..
Tea	,,	1,345	4	..	21,152	1,655	26,066	..	310
Sugar, refined	,,	1,600	132	30	17,134	1,786	19,120	..	186
Crushed (unrefined sugar) and liquid ..	,,	339	35	..	3,204	425	4,016	..	86
Molasses or syrup	,,	11,743	6	..	36,990	20,091	63,287	..	8,348
2. *Tobacco, raw and manufactured.*									
Tobacco, raw	,,	42,408	..	17,438	10	67,381	10	..	24,973
,, manufactured	,,	756	6	..	18,401	609	15,619	147	..
,, exempt from duty for the Government magazines	,,	6,352	3,763	..	..	21,036	..	..	14,684
3. *Agricultural Produce.*									
Produce of gardens—									
Fresh	,,	65,478	11,178	2	..	69,187	..	..	3,709
Prepared	,,	205	..	..	164	248	198	..	43
From the Zollverein, exempt from duty ..	,,	33,829	..	..	..	19,863	..	13,966	..
Fruit—									
Raw	,,	15,088	2,192	1	..	26,219	..	..	11,131
Preserved	,,	14,375	10	..	11,499	10,364	8,289	4,013	..
From the Zollverein, exempt from duty ..	,,	364	..	..	..	698	..	..	334
Preserved, marmalade, imported from Sardinia	,,	54	..	..	42	22	17	32	..
Nuts, viz., walnuts and hazel nuts, raw and dried	,,	7,079	298	..	5,664	2,457	1,965	4,622	..
,, walnuts and hazel nuts, imported from Sardinia	,,	8	..	..	7	3	2	5	..

From the Zollverein, exempt from duty ..	,,	46	..	..	..	32	..	14	..	
Wheat, husked, spelt	,,	141,661	5	33	22,853	65,004	22,065	76,657	..	
From the Zollverein, exempt from duty ..	,,	359,096	..	..	..	357,189	..	1,907	..	
Rye	,,	293,426	1	..	32,308	146,471	37,271	146,934	..	
From the Zollverein, exempt from duty ..	,,	106,027	..	..	..	172,485	..	..	66,458	
Meslin, buckwheat, millet, &c.	,,	48,190	..	..	8,153	..	..	48,190	..	
From the Zollverein, exempt from duty ..	,,	22,013	..	..	..	..	..	22,013	..	
Indian corn	,,	300,101	3	106	69,866	842,253	205,971	..	542,152	
From the Zollverein, exempt from duty ..	,,	1,467	..	..	..	1,462	..	5	..	
Beans, pease, lentils, vetches, chick-peas ..	,,	12,093	1,966	27	2,254	18,876	4,912	..	6,783	
Imported from Sardinia	,,	449	..	..	117	371	96	78	..	
From the Zollverein, exempt from duty ..	,,	6,630	..	..	..	2,064	..	4,566	..	
Barley and malt	,,	96,883	..	5	10,036	108,430	19,433	..	11,547	
From the Zollverein, exempt from duty ..	,,	63,543	..	..	..	39,697	..	23,846	..	
Oats	,,	84,173	360	32	11,109	57,498	10,157	26,675	..	
From the Zollverein, exempt from duty ..	,,	92,618	..	..	..	53,053	..	39,665	..	
Rice	,,	40,622	6,819	39	31,349	39,842	31,872	780	..	
,, in the husk	,,	305	..	..	82	1,215	328	..	910	
,, imported from Sardinia	,,	3,233	..	..	841	568	148	2,665	..	
Meal and flour	,,	12,065	13	97	2,509	14,628	3,244	..	2,563	
From the Zollverein, exempt from duty ..	,,	178,453	..	..	..	278,256	..	..	99,803	
Other products of grinding	,,	2,083	23	18	1,340	1,847	1,475	236	..	
From the Zollverein, exempt from duty ..	,,	5,117	..	..	..	4,460	..	657	..	
Hops	,,	545	..	..	1,433	..	..	545	..	
From the Zollverein, exempt from duty ..	,,	812	..	..	2,030	..	..	812	..	
Mulberry leaves	,,	..	..	..	..	38	..	..	38	
Rape seed	,,	1,890	..	1	113	37,435	2,246	..	9,678	
All other sorts of oil seeds	,,	25,867	396	13	1,552					
From the Zollverein, exempt from duty—										
Rape seed	,,	19,611	..	..	..	88,036	.	..	50,570	
Other sorts, with the exception of bay-berries and seeds of cotton-plants ..	,,	17,855								
Clover seed	,,	1,783	..	..	481	2,260	610	..	477	
From the Zollverein, exempt from duty ..	,,	2,768	..	..	..	5,145	..	..	2,377	
Seeds, unenumerated, for agricultural and horticultural purposes	,,	1,384	13	2	453	2,004	510	..	320	

Description of Goods.		Total of Imports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
From the Zollverein, exempt from duty ..	Cwts.	20,536	..	..	Florins. ..	17,469	Florins. ..	3,067	..
Mustard seed, in grains or pulverised ..	,,	149	13	3	119	484	387	..	335
From the Zollverein, exempt from duty ..	,,	129	..	..	..	32	..	97	..
Anise and cummin	,,	2,314	18	..	1,851	2,985	2,388	..	671
From the Zollverein, exempt from duty ..	,,	651	..	..	..	2,323	..	..	1,672
Succory roots	,,	1,947	..	..	1,558	..	..	1,947	..
Fleabane, seeds of forest trees, coriander and dyer's broom	,,	35	..	1	28	..	..	35	..
From the Zollverein, exempt from duty ..	,,	27	..	..	..	..	..	27	..
4. Animals.									
Fish, fresh, living, and killed	,,	405	..	1	82	..	..	405	..
Craw-fish, fresh; snails, castors, otters, frogs .	,,	158	..	1	..	..	..	158	..
Herrings, salted	Tons	6,127	..	14	9,190	} 34,331	53,635	..	..
,, ,, ...	Cwts.	5,889	123	1	5,302				
,, smoked	,,	292	..	..	146				
Cod fish	,,	22,450	508	82	18,773	} 25,208	40,206	..	2,312
Cospettani, sarache, scoranze, salted ..	,,	446	..	..	334				
Fish, preserved, unenumerated, viz.—									
Anchovies	,,	5,172	144	37	4,429	} 12,374	20,374	..	2,161
All other descriptions	,,	5,041	507	3	8,082				
Shells and shell-fish, as oysters, lobsters, &c. .	,,	607	38	5	668	651	1,637	..	44
Bulls and oxen	Number	21,850	7	..	86,499	21,410	89,401	440	..
From the Zollverein, exempt from duty ..	,,	1,260	..	..	4,725	1,687	6,326	..	427
Cows	,,	6,502	..	1	13,520	9,545	20,026	..	3,043
Bullocks and heifers	,,	276	..	1	1,430	293	439	..	17
From the Zollverein, exempt from duty ..	,,	802	..	..	1,203	1,298	1,947	..	496
Calves	,,	1,557	..	1	645	2,860	1,200	..	1,303

From the Zollverein, exempt from duty ..	,,	4,561	..	..	..	9,501	..	..	4,940
Sheep, goats, rams, wethers, bucks . ..	,,	23,755	2	10	6,381	17,543	4,710	6,212	..
Wethers imported from the Zollverein, exempt from duty	,,	343	..	..	86	2,458	614	..	2,115
Sheep and goats, from the Zollverein, exempt from duty	,,	1,616	..	..	..	3,613	..	..	1,997
Lambs and kids, not exceeding 28 lbs. ..	,,	2,677	..	98	468	1,736	310	941	..
Imported from Sardinia	,,	94	..	..	16	100	17	..	6
From the Zollverein, exempt from duty ..	,,	337	..	..	..	1,097	..	..	760
Swine..	,,	263,188	..	13	270,080	386,030	399,892	..	122,842
From the Zollverein, exempt from duty ..	,,	795	..	..	795	2,308	2,304	..	1,509
Sucking pigs, not exceeding 20 lbs. ..	,,	5,478	2	19	981	8,371	1,497	..	2,893
From the Zollverein, exempt from duty ..	,,	5,398	..	..	810	12,913	398	..	7,515
Horses and foals	,,	3,643	6	..	7,486	4,443	9,124	..	800
From the Zollverein, exempt from duty ..	,,	1,266	..	..	2,532	1,565	1,658	..	299
Foals which follow the dam, from the Zollverein, exempt from duty	,,	25	..	..	..	..	..	25	..
Asses and mules	,,	93	..	..	98	70	73	23	..
Leeches	,,	647,984	6,960	..	..	..	..	647,984	..
5. *Animal Products (not contained in other classes).*									
Hides and skins, viz., cow, ox, or bull, horse, ass, camel, &c., raw	Cwts.	63,938	6,770	1	..	87,680	..	1,839	..
Calf skins, undressed	,,	974	112	..	..				
Sheep, lambs, and goats	,,	24,365	2,146	1	..				
Coney and hares	,,	242	33	..	..				
Unenumerated, raw	,,	478	1	2	358	497	398	..	49
Furs	,,	1,096	13	..	2,882	..	..	1,096	..
Feathers for beds	,,	81	..	..	65	..	..	81	..
From the Zollverein, exempt from duty ..	,,	322	..	..	..	..	..	322	..
Feathers, ornamental, unmanufactured ..	,,	9	..	..	7	..	..	9	..
From the Zollverein, exempt from duty ..	,,	1	..	..	..	..	..	1	..
Quills, raw	,,	10	..	..	8	..	..	10	..
From the Zollverein, exempt from duty ..	,,	2	..	..	..	..	..	2	..
Not otherwise enumerated	,,	150	..	..	120	..	..	150	..

Description of Goods.		Total of Imports.	By Sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
Quills, prepared (writing, pens)	Cwts.	..	..	..	Florins.	..	Florins.	..	..
From the Zollverein, exempt from duty	,,	3	..	..	..	..	..	3	..
Meat, fresh	,,	790	9	10	869	1,271	1,435	..	481
,, preserved	,,	428	22	3	1,306	444	1,357	..	16
Sausages	,,	124	4	1	1,052	286	2,425	..	162
Honey, hydromel, and hives	,,	973	..	..	1,022	..	..	973	..
From the Zollverein, exempt from duty	,,	2	..	..	1	..	..	2	..
Wax	,,	852	49	..	2,556	1,213	4,839	..	361
From the Zollverein, exempt from duty	,,	138	..	..	345	102	255	36	..
Cheese	,,	13,530	52	..	55,061	16,344	76,536	..	2,814
From the Zollverein, exempt from duty	,,	932	..	..	2,330	1,383	2,489	..	451
Silkworms	,,	203	3	..	..	..	..	203	..
Milk, cream, curd	,,	552	..	..	..	..	..	552	..
Animal products, unenumerated	,,	500	90	..	400	..	..	550	..
From the Zollverein, exempt from duty	,,	4	..	..	3	..	..	4	..
Cuttings of common and other sponges	,,	21	2	..	17	..	..	21	..
6. *Grease and Oils.*									
Butter, fresh, salted, or melted	,,	804	17	1	1,967	2,114	5,489	..	1,310
From the Zollverein, exempt from duty	,,	397	..	..	794	1,673	3,655	..	1,276
Goose's fat, hog's grease, bacon	,,	1,384	105	2	2,825	1,556	4,092	..	131
Spermaceti	,,	41	..	..	108				
Stearine	,,	1,459	1	..	6,128	3,790	15,918	356	..
Paraffine	,,	2,667	11	..	11,285				
Train or blubber	,,	22,162	416	14	11,746	31,597	16,746	..	9,435
Grease, unenumerated	,,	27,624	1,360	384	22,098	29,723	23,778	..	2,099
Oils, in jars or bottles	,,	110	19	..	1,433	86	1,131	24	..
,, olive, in casks, &c.	,,	90,243	15,076	421	284,139	91,044	286,634	..	801

,, ,, imported by sea from Dalmatia and Istria	,,	47,513	9,494	705	75,071	71,780	113,412	..	24,267
,, ,, mixed with turpentine or rosemary oil	,,	71,255	44,250	355	57,004	70,710	56,568	545	..
,, cocoa-nut and palm, in casks	,,	14,987	568	5	11,990	21,579	17,263	..	6,592
,, rapeseed	,,	127	..	..	171				
,, linseed	,,	2,093	..	3	2,826	54,348	73,086	..	17,306
,, not particularly enumerated, in casks ..	,,	34,822	3,249	23	46,745				
From the Zollverein, exempt from duty—									
Rape-seed oil	,,	5,672	..	..	4,254				
Linseed oil	,,	274	..	..	205	27,098	20,323	..	8,120
Oils, not particularly enumerated ..	,,	13,032	..	..	9,774				
7. Articles of Food.									
Beer, in glass or stone bottles	,,	61	3	..	300	135	984	..	74
,, in casks	,,	5,125	3	98	7,341	7,673	10,961	..	2,548
Brandy, &c.	,,	1,265	119	12	17,220	1,266	15,793	..	1
Arrack	,,	1,558	37	..	21,207	5,680	78,376	..	1,576
Rum	,,	2,546	95	..	35,690				
Liqueurs, &c.	,,	233	7	..	4,081	428	6,461	..	195
Wine, in glass and stone bottles, viz.:—									
Champagne and sparkling wine	,,	2,187	7	..	28,759	5,626	69,958	..	907
All other kinds, in bottles	,,	2,532	33	..	30,298				
The same in casks, also grapes	,,	7,032	100	1	22,706	10,163	34,417	..	3,131
Wines from Istria, &c.	,,	27,027	647	318	25,497	71,218	59,968	..	44,191
Wines from Switzerland and so-called "sea-wines"	,,	1,750	48	..	3,307	567	1,072	1,183	..
Wines from the Danubian Principalities and Bosnia, imported by way of Transylvania, the Bukovina, and the "Generalat" of Carlstadt	,,	1,438	..	..	3,782	2,671	7,025	..	1,233
Wines from Bosnia, Servia, and Turkey ..	,,	1,086	244	..	6,842	1,284	8,089	..	198
Articles of food (not contained in other classes)									
Bread, common, &c.	,,	330	25	1	238	516	405	..	186
From the Zollverein, exempt from duty ..	,,	19,673	..	..	..	18,146	..	1,527	..

Description of Goods.		Total of Imports.	By Sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
Paste	Cwts.	341	45	11	Florins. 681		Florins.		
Wafers	,,	14	..	..	37	463	904	..	108
Paste, imported from the Zollverein, exempt from duty	,,	140	..	..	350	375	207	..	235
Fruit, dried and painted	,,	3	..	..	8	..	..	3	..
Mustard in powder and mustard prepared ..	,,	171	3	..	1,368	254	2,032	..	83
From the Zollverein, exempt from duty ..	,,	135	..	..	1,012	161	1,207	..	26
Capers	,	324	102	..	2,592	374	2,988	..	50
Articles of food, fine	,,	1,211	67	5	8,992	2,043	24,652	..	832
Eels, marinated in oil (in casks), from the Zollverein, exempt from duty	,,	4	..	..	30	214	2,213	..	90
Confitures, confectionery, fruit preserved in sugar, condiments, &c., imported from the Zollverein, exempt from duty	,,	120	..	..	1,200				
8. *Fuel, Timber, and other Building Materials.*									
Wood for fuel	100 cubic ft.	10,127	..	1	2,493	10,275	2,280	..	148
From the Zollverein, exempt from duty ..	,,	10,262	..	..	..	14,253	..	..	3,991
Timber, common, raw and prepared ..	,,	5,600	20	395	1,759	7,751	2,232	..	2,150
Imported from Sardinia	,,	2	..	..	2	23	18	..	21
Imported from the Zollverein, exempt from duty	,,	31,976	..	..	..	26,785	..	5,191	..
Timber, other than European	Cwts.	4,806	964	..	..	7,747	..	..	2,971
Charcoals	,,	10,619	..	..	..	..	..	10,619	..
Fossil coals, brown coals	,,	4,160,031	8,456	..	..	5,213,741	..	..	1,053,710
Teeth of animals, raw	,,	83	2	..	..	187	..	..	104
Meerschaum	,,	3,343	466	..	..	3,518	..	..	175
Whale-fins	,,	299	..	..	..	356	..	..	57

Ivory, raw, only cut												

Description of Goods.		Total of Imports.	By Sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties Levied.		
9. *Medical Drugs, Perfumery, Dye Stuffs, Substances used in Tanning, Accessory Stuffs for Chemical Purposes.*					Florins.		Florins.		
Ambergris, castor, &c.	Cwts.	3,409	356	..	17,897	4,374	22,963	..	965
Liquorice juice, oils of amber, laurel, rosemary, &c., from the Zollverein, exempt from duty	,,	12	..	..	36	4	12	8	..
Essential oils, balsams, &c.	,,	481	26	..	3,607	950	10,882	..	330
Sponges	,,	139	29	..	1,042				
Essential and odoriferous oils, &c., in flasks exceeding half a quart, imported from the Zollverein, exempt from duty	,,	193	..	..	865	99	495	94	..
Dye woods, in blocks	,,	66,312	22,434	..	..	98,828	..	..	32,516
Dye roots, common	,,	738	210	..	..	2,116	..	..	1,378
Bablah	,,	113	..	..	..				
Catechu, Terra Japonica	,,	5,015	2,770	..	..	6,121	..	..	637
Divi divi	,,	356	..	..	..				
Quercitron	,,	3,093	727	..	..	3,374	..	..	281
Tan	,,	9,637	22	..	..	..	..	9,637	..
Sumac	,,	24,964	3,261	..	..	..	..	24,964	..
Acorn..	,,	28,995	15,707	..	..	31,923	..	..	2,928
Valonia	,,	8,575	592	..	..	9,129	..	..	554
Gall nuts of all sorts	,,	756	407	..	..	831	..	..	75
Madder, weld	,,	2,697	232	..	297	8,004	880	..	5,307
From the Zollverein, exempt from duty ..	,,	7,023	..	..	..	3,096	..	3,927	..
Safflower	,,	348	227	..	39	702	77	..	354
From the Zollverein, exempt from duty ..	,,	632	..	..	..	188	..	444	..
Dye woods, other than in blocks	,,	5,517	34	3	2,924	7,508	3,979	..	1,991

Cochineal	,,	1,514	..	..	1,211	2,041	1,633	..	526
Kermes	,,	1	..	..	1	..	..		
Extracts of madder, garancine, &c...	..	,,	9,538	157	..	7,630	11,888	9,510	..	2,350
Indigo	,,	6,372	37	1	5,098	7,883	6,306	..	1,511
Avignon berries..	,,	70	..	..	56	..	..	70	..
Lac dye	,,	83	..	..	66	..	..	83	..
Lacmus	,,	17	..	..	14	..	..	17	..
From the Zollverein, exempt from duty ..	,,	152	..	..	114	..	..	152	..
Terra Orleana	,,	49	..	..	39	..	..	49	..
Extracts of dye stuffs	,,	7,387	23	..	11,080	9,423	14,523	..	2,016
Extracts of substances used in tanning ..	,,	20	..	..	30				
Archil, prepared	,,	1,172	..	..	1,758	1,725	2,672	..	523
Cudbear, Persia	,,	30	..	..	45				
Rosin, common	,,	7,066	8	1	..	..	..	9,066	..
Tar	,,	8,294	..	..	..	..	..	8,294	..
Colophony	,,	1,172	368	..	..	..	..	1,172	..
Asphalt and other kinds of bitumen, earth, pitch, mineral tar	,,	485	..	..	..	..	..	485	..
Turpentine oil, &c.	,,	9,387	5	..	7,040	8,614	5,921	773	..
From the Zollverein, exempt from duty ..	,,	1,217	..	..	..	1,076	..	141	..
Benzoin	,,	49	..	..	37	..	..	49	..
India rubber	,,	503	..	..	402	..	..	503	..
Gutta percha	,,	68	..	..	54	..	..	68	..
All other kinds of gums and vegetable juices, not particularly enumerated	,,	12,661	2,932	3	10,129	17,260	13,808	..	4,599
Kitchen salt, mother-water, salt given to animals to lick	,,	998	..	..	26	8,902	55	..	7,904
For Government magazines	,,	528,911	201,623	..	..	522,312	..	6,599	..
For chemical and technical uses ..	,,	107,507	..	..	..	66,854	..	40,653	..
Sea water, mother-water from Kreuznach for medical purposes	,,	104	102	..	..	2,152	..	..	2,048
Arsenic, arsenical acid	,,	570	1	..	..	..	..	570	..
Realgar, orpiment	,,	46	1	..	..	161	35	..	115
Borax, unrefined, or tincal	,,	49	..	..	..	79	14	..	30
Iron liquor	,,	531	..	..	..	..	..	531	..
Mineral water, natural	,,	8,185	11	..	..	11,723	..	..	3,538

Description of Goods.		Total of Imports.	By Sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
Mineral water, artificial	Cwts.	132	..	..	Florins.	51	Florins.	81	..
Potash	,,	386	..	..	..	..	..	386	..
Saltpetre, raw (nitrate of potash)	,,	2,357	1,958	..	..	510	183	1,847	..
Chilean saltpetre (nitrate of soda)	,,	43,585	18,168	..	..	41,755	..	1,830	..
Brimstone (in rolls, flour, &c.)	,,	79,220	33,717	..	..	128,256	..	..	49,036
Antimony	,,	5	..	..	..	..	..	5	..
Argol, raw	,,	75	..	..	..	..	..	75	..
Lees of wine, dried	,,	4	..	..	..	..	..	4	..
Cream of tartar	,,	20	..	3	..	..	..	20	..
Sulphate of iron	,,	558	85	5	139	539	160	19	..
From the Zollverein, exempt from duty	,,	9,602	..	..	..	15,348	..	..	5,746
Muriatic potash	,,	256	..	..	108	..	..	256	..
For glass works and for the production of alum	,,	9,580	..	..	1,045	..	..	9,580	..
From the Zollverein, exempt from duty	,,	29	..	..	12	..	..	29	..
Sulphite and bisulphite of potash	,,	97	..	..	41	..	..	..	..
From the Zollverein, exempt from duty	,,	1	..	..	..	..	..	..	..
Sulphite and bisulphite of soda	,,	167	..	..	70	..	..	..	..
For glass works, &c., at a lower rate of import duty	,,	1,688	..	..	186	..	..	..	..
From the Zollverein, exempt from duty	,,	526	..	..	210	..	..	..	..
Sulphuric Acid	,,	449	5	..	159	298	283	205	..
Muriatic acid	,,	54	..	..	23				
From the Zollverein, exempt from duty	,,	..	..	..	..	..	..	..	..
Nitric acid (aqua fortis)	,,	48	..	..	19	14	6	42	..
Aqua regia	,,	8	..	..	3				
Soda	,,	78,613	24,082	572	33,017	89,619	37,640	..	11,006
From the Zollverein, exempt from duty	,,	7,470	..	..	2,988	1,216	487	6,254	..
Saltpetre, refined	,,	981	..	..	736	..	..	981	..

Copperas of all sorts	,,	1,539	53	1	1,138	5,580	592	..	4,041
Silicate of soda ("wasserglas")	,,	67	..	..	50	..	..	67	..
Brimstone with which to sophisticate wine ..	,,	1	..	..	1	..	..	1	..
Alum	,,	1,549	789	2	1,364	2,741	3,790	..	1,192
From the Zollverein, exempt from duty ..	,,	942	..	..	706	1,410	1,057	..	468
Sal ammoniac	,,	835	..	..	1,252	1,272	1,973	..	437
From the Zollverein, exempt from duty ..	,,	35	..	..	26	87	65	..	52
Sulphate of ammonia, for alum works ..	,,	..	..	..	..	265	111	..	265
Hartshorn spirit, and spirits of sal ammoniac..	,,	68	..	..	102	..	..	68	..
From the Zollverein, exempt from duty ..	,,	720	..	..	540	..	..	720	..
Combinations of ligneous acid with iron, lead, or lime	,,	135	..	..	202	..	..	135	..
From the Zollverein, exempt from duty ..	,,	130	..	..	97	..	..	130	..
Borax, refined	,,	921	..	..	1,381	..	..	921	..
Chloride of lime	,,	5,332	79	..	7,998	3,092	5,868	2,240	..
Chromate of potash	,,	843	8	..	1,264	..	..	843	..
Verdigris	,,	503	6	..	754	40	6	463	..
Red lead	,,	1,647	1	2	2,470	3,160	4,895	..	1,513
Bicarbonate of potash	,,	73	..	..	109	..	..	73	..
Bicarbonate of soda	,,	66	..	..	99	..	..	66	..
Smalts	,,	178	..	..	267	..	..	178	..
Zaffre and other combinations of cobalt ..	,,	8	..	..	12	..	..	8	..
Tartaric acid	,,	38	..	..	57	..	..	38	..
White lead	,,	109	1	1	272	} 1,591	4,171	..	1,451
White of zinc	,,	31	..	5	77				
From the Zollverein, exempt from duty—									
White lead	,,	432	..	..	648	} 665	997	81	..
White of zinc	,	314	..	..	471				
Acetate of lead	,,	15	..	1	37	..	..	15	..
From the Zollverein, exempt from duty ..	,,	59	..	..	88	..	..	59	..
From the Zollverein, exempt from duty—									
Sulphuric acid		655	..	..	262	} 820	516	939	..
Muriatic acid		1,104	..	..	442				
Nitric acid (aqua fortis)	,,	79	1	..	33	136	} 170	..	57
Aqua regia	,,	..	..	..	..	..			
Prussiate of kali	,,	9	..	..	22	..	..	9	..

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			Trieste.	Fiume.		Total of Imports.	Duties levied.		
					Florins.		Florins.		
From the Zollverein, exempt from duty ..	Cwts.	15	..	..	22	..	..	15	..
Chromate of lead—									
From the Zollverein, exempt from duty ..	,,	27	..	..	40	..	..	27	..
Caustic soda—									
From the Zollverein, exempt from duty ..	,,	1	..	..	2	29	58	..	28
Oxalic acid		112	..	..	280	..	.	112	..
From the Zollverein, exempt from duty ..	,,	136	..	..	272	..	..	136	..
Oxalate of potash	,,	27	..	..	67	..	..	27	..
From the Zollverein, exempt from duty ..	,,	8	..	..	16	..	..	8	..
10. *Metals, unwrought and wrought.*									
Ore of lead	,,	5	..	..	..	..	..	5	..
Ores of zinc	,,	..	..	..	..	..	..	..	..
Ore of iron	,,	53,729	21	..	..	..	..	53,729	..
Ore of copper	,,	..	..	..	..	..	..	..	..
Ore of tin	,,	..	..	..	..	..	..	..	..
Spodium or tutty	,,	2	..	..	..	..	..	2	..
Lead, raw	,,	831	10	26	638	2,525	2,223	..	1,694
Litharge	,,	59	1	1	59	249	381	..	190
From the Zollverein, exempt from duty ..	,,	231	..	..	173	47	..	..	..
Lead, rolled	,,	583	..	..	1,749				
From the Zollverein, exempt from duty ..	,,	8	..	..	20				
Printing type, stereotype	,,	49	..	..	142				
From the Zollverein, exempt from duty ..	,,	144	..	..	360	1,131	4,461	..	99
Lead in moulds	,,	160	5	4	560				
From the Zollverein, exempt from duty ..	,,	83	..	..	207				
Lead wire	,,	5	..	..	17				
Iron, raw, old and broken, &c.	,,	39,263	4,983	2,502	16,460	95,525	40,118	..	6,262

From the Zollverein, exempt from duty ..	,,	16,139	..	..	6,456	14,472	4,455	1,667	..	
Iron, refined, half manufactured	,,	2,407	239	935	2,262	2,936	3,751	..	529	
From the Zollverein, exempt from duty ..	,,	3,174	..	..	4,761	14,056	15,157	..	10,882	
Rails (for railways)	,,	200	..	..	..	48,305	18	..	48,105	
From the Zollverein, exempt from duty, not including those of steel	,,	2,714	..	..	4,071	4,758	5,492	..	2,044	
Steel of all kinds	,,	819	45	1	2,022	1,308	3,107	..	489	
From the Zollverein, exempt from duty ..	,,	1,282	..	..	1,923	2,015	2,250	..	733	
Iron-plate, black, iron-plate, raw, unpolished	,,	371	8	204	843	435	1,502	..	64	
From the Zollverein, exempt from duty ..	,,	661	..	..	1,652	2,309	3,994	..	1,648	
Steel in sheets, raw, steel-plate, raw, unpolished	,,	546	..	..	1,911	554	2,085	..	8	
From the Zollverein, exempt from duty ..	,,	262	..	..	655	1,844	3,371	..	1,582	
Tires	,,	..	..	..	..	2	7	..	2	
From the Zollverein, exempt from duty ..	,,	6,340	..	..	14,667	7,336	12,884	..	996	
Iron in sheets or plates, polished, &c. ..	,,	1,566	157	2	6,264	3,190	14,200	..	1,624	
Tin-plates (plates of iron covered with tin) ..	,,	13	..	..	52	..	..	13	..	
Steel in sheets or plates, polished, &c. ..	,,	19	..	..	76	93	368	..	74	
Iron wire	,,	943	..	3	3,772	808	3,214	135	..	
Not polished, from the Zollverein, exempt from duty	,,	3,158	..	..	7,895	5,701	14,755	..	2,543	
Steel wire, unpolished	,,	967	..	..	3,868	525	2,173	442	..	
Iron, refined, wrought, &c.	,,	48	..	..	192	950	2,908	..	551	
From the Zollverein, exempt from duty ..	,,	478	..	..	1,195					
Anchors, chains, and cables	,,	351	5	178	119	766	1,460	..	258	
From the Zollverein, exempt from duty ..	,,	30	..	..	75					
Articles to be used in coachbuilding and in the construction of machinery, raw	,,	..	..	..	..	245	857	..	245	
From the Zollverein, exempt from duty ..	,,	24	..	..	60	7	17	17	..	
Steel wire, polished, steel strings	,,	39	..	..	195	83	430	..	44	
From the Zollverein, exempt from duty ..	,,	24	..	..	96	19	69	5	..	
Iron, cast, raw	,,	7,283	14	613	6,594	16,915	13,488	..	9,632	
From the Zollverein, exempt from duty ..	,,	4,012	..	..	3,009	9,659	7,244	..	5,647	
Quicksilver	,,	4	..	..	..	..	..	4	..	
Zinc, raw	,,	25,116	..	..	..	40,478	367	..	15,362	
,, 1, in plates or sheets; 2, in tubes or wire	,,	671	14	16	1,188	630	469	41	..	
,, Nos. 1 and 2, from the Zollverein, exempt from duty	,,	659	..	..	988	846	1,268	..	187	

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			Trieste.	Fiume.		Total of Imports.	Duties levied.		
					Florins.		Florins.		
Zinc, cast, raw, from the Zollverein, exempt from duty	Cwts.	5	..	..	7	3	4	2	..
Copper, raw (in blocks, rosettes, cakes, and bars) also ashes	,,	13,519	1,346	..	..	17,361	1,914	..	3,842
Nickel, raw, metallic, arseniate of	,,	81	..	..	..	115	29	..	34
Tin, raw, in blocks, bars, &c., and old broken tin	,,	7,316	47	..	..	4,822	..	2,494	..
Tin ashes	,,	..	..	..	..	..	..	..	..
Brass, raw	,,	60	..	6	..	..	..	60	..
Packfong, raw	,,	..	..	..	..				
Aluminium, raw	,,	..	..	..	..	990	445	..	546
All other articles of this class	,,	384	170	..	..				
Tin, drawn, &c.	,,	2	..	..	6	..	..	2	6
From the Zollverein, exempt from duty	,,	6	..	..	15	..	..	6	5
Tin, cast, raw	,,	..	..	..	..	..	..	..	..
From the Zollverein, exempt from duty	,,	..	..	..	..	3	4	4	3
Copper, wire, sheets, kettles, pans, scales, and the like	,,	6	..	..	36	..	..	6	..
From the Zollverein, exempt from duty	,,	1	..	..	4	..	..	1	..
Brass wire, strings, plates, rolls, and sheets	,,	23	..	..	138	..	..	23	..
From the Zollverein, exempt from duty	,,	13	..	..	52	..	..	13	..
Nickel, drawn, &c.	,,	1	..	..	6	..	..	1	..
From the Zollverein, exempt from duty	,,	2	..	..	8	..	..	2	..
Packfong, drawn, &c.	,,	4	..	..	24	..	..	4	..
From the Zollverein, exempt from duty	,,	7	..	..	28	..	..	7	..
All other wares of this class	,,	29	21	..	174	..	..	29	..
Gold, unwrought, old, &c.	lbs.	25	..	..	..	6	..	19	..
Silver, unwrought, old, &c.	,,	5,981	32	3	..	9,751	..	..	3,770
Gold coin	,,	15,697	2,642	..	..	10,332	..	5,365	..
Silver coin	,,	251,291	23,337	..	..	220,967	..	30,324	..

11. *Weaving Materials.*										
Cotton, raw (cotton wool)	Cwts.	342,423	102,557	..	..	361,958	..	..		19,535
,, carded	,,	304	..	5	161	358	190	..		54
Flax, and tow or cadilla of	,,	10,511	5	19	630	47,004	2,820	..		36,493
From the Zollverein, exempt from duty ..	,,	134,284	..	..	..	165,807	..	..		31,523
Hemp, Manila	,,	59	..	..	4	..	..		59	..
All other sorts, and tow or cadilla of hemp ..	,,	53,239	10,071	467	3,194	82,641	4,958	..		29,402
From the Zollverein, exempt from duty ..	,,	2,208	..	..	..	1,415	..		793	..
Sea-grass	,,	97	12	..	6	..	..		97	..
From the Zollverein, exempt from duty ..	,,	368	..	..	..	..	..		368	..
All other articles of this class	,,	784	..	..	46	148	9		636	..
From the Zollverein, exempt from duty ..	,,	248	..	..	..	1,722	..	..		1,474
Wool, raw	,,	153,028	2,356	..	..	153,474	..	..		446
,, powdered	,,	791	8	..	633	694	555		97	..
From the Zollverein, exempt from duty ..	,,	1,967	..	..	..	2,078	..	..		111
Cocoons	,,	500	42	..	..	728	..	..		228
Silk, raw, not thrown or twisted	,,	349	24	1	279	382	306	..		33
,, waste silk, not spun	,,	206	110	..	165	700	560	..		494
,, raw, thrown, or twisted	,,	518	..	..	4,144	386	3,088		132	..
,, waste silk, spun, not dyed	,,	232	2	..	1,856	538	4,304	..		306
,, and waste silk, dyed	,,	313	..	..	4,930	312	4,899		1	..
12. *Yarns.*										
Of cotton, unbleached		51,814	51	2	272,023	60,195	316,024	..		8,381
From the Zollverein, exempt from duty ..	,,	27,580	..	..	110,320	38,892	119,914	..		11,312
Wad	,,	21	..	..	110	119	614	..		98
Bleached or twisted	,,	1,064	32	2	11,172	974	10,227		90	..
From the Zollverein, exempt from duty ..	,,	257	..	..	1,542	756	2,582	..		499
Dyed, twisted or not	,,	3,007	1	..	39,542	6,290	41,393	..		3,283
Of linen, unbleached	,,	7,689	1	..	20,222	15,350	40,370	..		7,661
From the Zollverein, exempt from duty—										
Yarn, spun by hand, unbleached ..	,,	2,773	..	..	..	3,117	..	..		344
Twist (yarn, spun by means of engines)—										
Unbleached	,,	462	..	..	1,215	7,595	5,861	..		7,133
Bleached	,,	256	..	..	2,048	474	3,792	..		218

Description of Goods.		Total of Imports.	By Sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports	Duties levied.		
From the Zollverein, exempt from duty ..	Cwts.	57	..	..	Florins. 256	109	Florins. 612	..	52
Twisted	,,	1,350	4	1	17,624	1,444	18,410	..	94
Woollen (carded), raw	,,	315	..	..	315	501	501	..	186
From the Zollverein, exempt from duty ..	,,	554	..	..	415	160	120	394	..
Worsted (combed), raw	,,	15,986	..	..	71,937	18,779	93,745	..	2,793
Woollen, dyed or twisted	,,	974	1	..	12,828	1,325	17,424	..	351
13. *Woven Manufactures.*									
Cotton manufactures, common	,,	16	1	..	576	17	648	..	1
From the Zollverein, exempt from duty ..	,,	199	..	..	4,975	23	575	176	..
Middle fine, not including printed articles, fringe makers', lacemen's, and button makers' work, ribbons, and hosiery ..	,,	1,054	9	..	65,224	1,184	79,036	..	31
Fringe makers', lacemen's, and button makers' work, ribbons and hosiery ..	,,	16	..	..	992				
Printed tissues	,,	83	..	..	5,146				
From the Zollverein, exempt from duty—									
Middle fine, not including printed articles, fringe makers', lacemen's, and button maker's work, ribbons, and hosiery ..	,,	142	..	..	6,390	360	16,200	..	115
Fringe makers' lacemen's, and button makers' work, ribbons, and hosiery ..	,,	23	..	..	1,035				
Printed tissues	,,	50	..	..	2,250				
Fine	,,	705	1	..	63,450	606	63,255	99	..
From the Zollverein, exempt from duty, except bobbinets (tulle Anglais), petinets and lace	,,	5	..	..	350	119	5,970	..	114

Superfine (embroidered tissues excepted) ..	,,	61	..	..	16,012	}	56	14,575	10	..	
Embroidered tissues	,,	5	..	..	1,312						
Linen manufactures—ropemakers' work—											
Unbleached	,,	706	132	36	638		823	1,062	..		117
From the Zollverein, exempt from duty ..	,,	337	..	..	253		101	76	236	..	
Bleached	,,	12	..	..	18		10	15	2	..	
From the Zollverein, exempt from duty ..	,,	18	..	..	13		8	6	10	..	
Pack linen (grey)	,,	1,030	34	..	1,545		142	279	888	..	
From the Zollverein, exempt from duty ..	,,	484	..	..	363		136	102	348	..	
Tissues of linen, most common	,,	30,072	9	6	8,020		131	1,876	29,941	..	
From the Zollverein, exempt from duty ..	,,	790	..	..	4,740		13	78	777	..	
Common—thick tissues, printed	,,	95	..	..	2,628	}	171	6,144	35	..	
All other kinds	,,	111	..	..	3,996						
From the Zollverein, exempt from duty—											
Common—thick tissues printed ..	,,	10	..	..	250	}	12	300	7	..	
All other kinds	,,	9	6	..	225						
Middle fine—cambrics	,,	35	..	..	2,450	}					
Fringe makers', lacemen's, and button makers' work, ribbons, and hosiery	,,	2	..	..	140	}	59	4,025	..		22
From the Zollverein, exempt from duty ..	,,	2	..	..	90		15	735	..		31
Fine	,,	14	1	..	1,050		55	5,505	..		41
From the Zollverein, exempt from duty ..	,,	..	..	..	..		1	75	..		1
Superfine	,,	..	..	..	..	..		..	..	..	
Woollen manufactures, most common ..	,,	650	4	19	4,821		437	2,155	213	..	
Articles, for making, carding instruments ..	,,	24	..	..	192		31	248	..		7
Common	,,	935	1	..	33,408		1,536	58,542	..		601
From the Zollverein, exempt from duty ..	,,	205	..	..	5,125		279	..	..	..	
Middle-fine fringes, button-wares, hosiery ..	,,	484	..	..	26,136	}	3,083	203,310	..		382
All other sorts	,,	2,217	..	..	119,556						
From the Zollverein, exempt from duty—											
Fringes, button-wares, hosiery . ..	,,	442	..	..	19,890	}	2,840	127,800	..		859
All other sorts	,,	1,539	11	..	69,255						
Thick tissues, printed	,,	605	..	..	45,375		148	11,100	457	..	
From the Zollverein, exempt from duty ..	,,	418	..	..	18,810		452	20,340	..		34
Fine: shawls, handkerchiefs	,,	27	..	..	2,430		1	90	26	..	
From the Zollverein, exempt from duty ..	,,	28	..	..	1,960		2	140	26	..	

Description of Goods.		Total of Imports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
All other sorts	Cwts.	29	1	..	Florins. 2,610	234	Florins. 24,570	..	205
From the Zollverein, exempt from duty ..	,,	19	..	..	855	11	1,100	8	..
Superfine	,,	17	..	..	4,462	26	6,450	..	9
Manufactures of silk—									
Fine, of pure silk	,,	718	2	..	188,475				
Of silk mixed with gold or silver threads, or with spun glass	,,	4	..	..	1,050				
Lace and blonde	,,	36	..	..	9,450	1,436	316,387	..	674
Ribbons	,,	2	..	..	525				
Embroidered wares	,,	2	..	..	525				
Common shawls	,,	87	..	..	8,961				
All other articles not enumerated	,,	278	1	..	28,634	515	57,178	..	150
From the Zollverein, exempt from duty—									
All other articles not enumerated ..	,,	248	..	..	17,360	289	23,480	..	41
Wax and oil-silk cloth—									
Common	,,	90	1	..	123	41	188	49	..
From the Zollverein, exempt from duty ..	,,	11	..	..	11	9	9	2	..
Fine	,,	700	1	..	8,400	1,282	22,314	..	582
From the Zollverein, exempt from duty ..	,,	82	..	..	820	63	630	19	..
Waxed taffeta	,,	21	..	..	252				
From the Zollverein, exempt from duty ..	,,	10	..	..	100	2	105	29	..
Silk tissues, mixed with India-rubber or gutta percha	,,	212	1	..	5,300	82	2,050	130	..
Articles of clothing and millinery—									
Common	,,	218	23	..	11,734	373	14,569	..	155
Fine: hats and caps of felt	,,	8	..	..	1,260				
All other kinds	,,	40	..	..	6,300	106	16,695	..	58
Superfine: false flowers	,,	27	..	..	7,087				
All other kinds	,,	98	1	..	24,195	182	45,735	..	57

14. *Articles of bristles, bast, rush, grass, straw, &c., Paper and Stationery.*											
Brushmakers' and sievemakers' wares—											
Common	,,	25	..	..	113						
From the Zollverein, exempt from duty ..	,,	68	..	..	204	..	..	130	..		
Fine	,,	24	..	..	360						
From the Zollverein, exempt from duty ..	,,	3	..	..	36						
Articles of bast, rush, grass, reed, cane, and straw, most common	,,	168	16	..	42						
Cane—											
Raw, cleft	,,	..	..	..	..						
From the Zollverein, exempt from duty ..	,,	4	..	..	1						
Common	,,	58	..	..	145						
From the Zollverein, exempt from duty ..	,,	9	..	..	13	..	..	341	..		
Middle fine	,,	97	..	..	970						
Fine	,,	2	..	..	120						
From the Zollverein, exempt from duty ..	,,	..	..	..	..						
Superfine	,,	3	..	..	787						
Paper—											
Most common	,,	9,214	..	..	6,910	16,963	4,679	..	7,749		
Common	,,	121	2	..	333	100	290	21	..		
From the Zollverein, exempt from duty ..	,,	297	..	..	445	5,443	598	..	5,146		
Fine, coloured	,,	59	..	..	324						
All other sorts	,,	310	12	3	1,705	430	3,099	..	61		
From the Zollverein, exempt from duty—											
Fine, coloured		148	..	..	592						
All other sorts	,,	1,358	..	..	5,432	2,914	6,323	..	1,408		
Superfine	,,	17	1	1	212	26	380	..	9		
From the Zollverein, exempt from duty	,,	148	..	..	1,776	238	1,761	..	90		
Paper hangings	,,	324	..	..	4,050	218	5,441	106	..		
From the Zollverein, exempt from duty ..	,,	608	..	..	7,296	843	5,850	..	235		
Playing-cards	,,	8	1	..	35	3	94	5	..		
Paper wares: of paper and pasteboard; also, paper works combined with other materials .	,,	430	3	..	5,375	625	9,091	..	195		
From the Zollverein, exempt from duty .	,,	831	..	..	9,972	1,431	10,342	..	600		

Description of Goods.		Total of Imports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
15. *Leather and Leather-wares, Furs, and other such like Articles.*					Florins.		Florins.		
Furs, raw	Cwts.	19	..	..	199	..	..	48	..
From the Zollverein, exempt from duty ..	,,	29	..	..	130				
Leather, common	,,	4,856	349	2	23,012	4,336	18,327	520	..
From the Zollverein, exempt from duty ..	,,	10,170	..	..	30,510	9,267	25,704	903	..
Carding (cut in strips) for home factories ..	,,	..	..	..	..	434	2,029	..	434
Carding, false, from the Zollverein, exempt from duty	,,	161	..	..	724	..	..	325	..
India-rubber, in plates or threads; also gutta percha, more or less purified	,,	164	..	..	902				
Partly tanned goat and sheep skins . ..	,,	13,375	15	..	13,375	18,256	24,978	..	4,881
From the Zollverein, exempt from duty ..	,,	901	..	..	676	437	328	464	..
Leather, fine	,,	198	1	..	1,638	278	3,639	..	80
From the Zollverein, exempt from duty ..	,,	682	..	..	6,820	1,414	7,134	..	732
Manufactures of leather and India-rubber, common, such as shoemakers' wares ..	,,	1,587	..	2	19,044				
Saddlers' wares	,,	23	..	..	276				
Manufactures of caoutchouc and gutta percha .	,,	129	..	..	1,548	419	5,838	1,623	..
Trunkmakers' wares	,,	1	..	..	12				
All other kinds	,,	302	8	2	3,624				
From the Zollverein, exempt from duty—									
Shoemakers' wares	,,	56	..	..	420				
Saddlers' wares	,,	67	..	..	502				
Manufactures of caoutchouc and gutta percha	,,	178	..	..	1,335	752	5,617	..	188
Trunkmakers' wares	,,	5	..	..	37				
All other kinds	,,	258	..	..	1,897				

Leather wares, fine	,,	121		1	..	3,025	160	5,751	29	..	
Manufactures of caoutchouc and gutta percha, fine	,,	10		..	..	250					
From the Zollverein, exempt from duty—											
All the articles mentioned in the Tariff (62*d*, Note 1)	,,	31		..	..	372					
Ditto ditto (62*d*, Note 2)	,,	347		..	..	5,205					
Caoutchouc and gutta percha from the Zollverein, exempt from duty—							626	13,373	78	170	
All the articles mentioned in the Tariff (62*d*, Note 1)	,,	11		..	..	132					
Ditto ditto (62*d*, Note 2)	,,	67		..	..	1,005					
Gloves	,,	10		..	..	580	12	383	2	..	
From the Zollverein, exempt from duty ..	,,	2		..	..	90	4	139	2	..	
16. *Wooden wares, Earthenware, Stoneware, and Glassware.*											
Wooden wares, most common	,,	7,349	280		404	1,816	46,465	2,979	..	2,738	
From the Zollverein, exempt from duty ..	,,	25,378									
Wooden machinery, common, agricultural ..	,,	..	..		..	..	303	128	..	303	
Wooden wares, viz.—											
Veneers, common	,,	31	..		1	23					
Inlays	,,	7	..		..	5					
Articles of cork	,,	902		9	..	676	2,738	3,739	..	925	
All other kinds	,,	873		13	..	651					
Fine, viz., all other kinds	,,	1,693		15	25	3,788	2,086	3,903	..	393	
From the Zollverein, exempt from duty—											
All other kinds	,,	1,185	..		..	1,777	1,344	2,201	..	159	
Printing-plates of wood	,,	2	..		..	..	..	..	2	..	
Superfine, viz., furniture (household) stuffed	,,	61	..		..	732					
Basket-makers' work, fine	,,	234	..		..	2,808	2,750	21,562	..	1,494	
Veneers, with insertions	,,	24	..		..	288					
All other articles of this class ..	,,	937		2	1	11,065					
Glass—											
Most common	,,	1,414		26	2	1,060	1,606	1,972	..	192	

Description of Goods.		Total of Imports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
					Florins.		Florins.		
Common	Cwts.	3,340	10	29	1,283	5,999	3,053	..	2,659
From the Zollverein, exempt from duty ..	,,	558	..	..	837	663	1,401	..	105
Middle fine	,,	4,898	6	..	1,592	3,044	2,066	..	3,146
From the Zollverein, exempt from duty—									
Glass tubes, &c., for glass-making ..	,,	285	..	..	214	112	84	173	..
Pressed, polished, &c.	,,	126	..	..	504	499	1,646	..	373
Fine: all glass coloured, painted, gilt, silvered, &c.	,,	82	3	..	840				
Imitation gems, unset	,,	2	..	..	21	47	624	41	..
Mirror-glass, not exceeding 284 square Vienna inches, each	,,	4	..	..	42				
From the Zollverein, exempt from duty—									
All glass coloured, painted, gilt, silvered, &c.	,,	195	..	..	1,170				
Imitation gems, unset	..	..	..	..	..	483	2,479	..	161
Mirror-glass, not exceeding 284 square Vienna inches, each	,,	127	..	..	762				
Superfine: viz., mirrors, the glass measuring above 284 square Vienna inches, each ..	,,	3	..	..	45	16	336	..	13
All other kinds of this class	,,	121	1	1	1,275	27	240	94	..
From the Zollverein, exempt from duty—									
Superfine, viz., mirrors, the glass measuring above 284 square Vienna inches each	,,	685	..	..	8,220	904	9,040	..	219
All other articles of this class	,,	243	..	..	2,916	523	6,276	..	280
Coral, real, wrought but unset	,,	13	..	..	156	..	..	13	..
Coral, imitation, wrought but upset ..	,,	1	..	..	12	..	..	1	..
Statues of stone, exceeding 10 lbs. each ..	,,	7	..	..	7	..	..	7	..
All other articles	,,	100	..	..	96	..	..	100	..

Earthenware, most common	,,	2,818	3	18	704	6,562	2,000	..	3,744	
From the Zollverein, exempt from duty ..	,,	25,113	..	..	..	35,061	..	..	9,948	
Common	,,	139	3	3	625	182	917	..	43	
From the Zollverein, exempt from duty, not including tobacco pipes	,,	689	..	..	1,722	985	2,538	..	296	
Tobacco pipes, one-coloured, not painted, from the Zollverein, exempt from duty ..	,,	8	..	..	..	31	..	..	23	
Middle fine	,,	126	10	1	696	165	1,341	..	39	
From the Zollverein, exempt from duty ..	,,	595	..	..	2,677	697	3,216	..	102	
Fine	,,	101	1	..	1,485	164	3,369	..	63	
From the Zollverein, exempt from duty ..	,,	617	..	..	7,404	1,412	12,525	..	795	
Statues of stone, exceeding 10 lbs. each ..	,,	101	..	..	..	..	..	101	..	
All other articles	,,	208	..	..	156	..	..	208	..	
17. *Metal Wares.*										
Iron wares, most common	,,	5,670	45	83	27,165	14,921	36,427	..	9,251	
From the Zollverein, exempt from duty ..	,,	5,541	..	..	24,788	14,857	49,578	..	9,316	
Common, viz., scythes, sickles, chopping-knives	,,	47	..	18	382					
Edge tools	,,	126	..	..	756	4,788	11,527	..	1,329	
All other articles of this class	,,	3,286	71	55	6,431					
From the Zollverein, exempt from duty—										
Scythes, sickles, chopping-knives ..	,	288	..	..	1,296					
Edge tools	,	315	..	..	1,417	9,859	33,016	..	5,445	
All other articles of this class	,	3,811	..	..	17,149					
Fine: steel pens, clock-works, and parts thereof										
Tambour, hook, and knitting needles ..	,,	193	..	..	2,895					
All other articles, not combined with other materials	,,	4	..	..	66	1,729	26,236	1,484	..	
All other articles, combined with other materials	,,	825	1	1	12,375					
		2,191	15	4	9,825					
Arms	,,	169	2	..	2,535	235	3,502	..	66	
From the Zollverein, exempt from duty, not including guns of all kinds	,,	145	..	..	1,744	191	1,096	..	46	
Needles for sewing	,,	19	..	..	475	5	125	14	..	
From the Zollverein, exempt from duty ..	,,	195	..	..	2,925	101	1,515	94	..	

Description of Goods.		Total of Imports.	By Sea to		Duties Levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties levied.		
Metal wares—					Florins.		Florins.		
Manufactures of zinc and tin, common, from the Zollverein, exempt from duty ..	Cwts.	9	..	4	25	..	..	9	..
Tin wares, coarse	,,	1	..	..	2	..	..	1	..
Metal wares, unenumerated, except copper wares	,,	52	..	1	390	..	..	52	..
Copper wares	,,	67	..	..	346	..	..	67	..
From the Zollverein, exempt from duty—									
Metal wares, unenumerated, except copper wares	,,	66	..	..	297	..	..	66	..
Copper wares	,,	10	..	..	45	..	..	10	..
Fine	,,	203	..	4	2,964	..	..	203	..
From the Zollverein, exempt from duty ..	,,	455	..	6	5,460	..	..	455	..
18. *Ships and Carriages.*									
Ships and boats, wooden	Tons of 20 centners	36	..	..	15	..	..	36	..
,, of iron or other metal ..	,,	2	..	..	10	..	..	2	..
Carts and waggons, also sledges	Number	19	..	..	50	..	..	19	..
Carriages, also sledges, without leather or upholstery ware	,,	2	..	..	31	..	..	2	..
19. *Instruments, Machines, and Hardware.*									
Instruments, musical, other than pianos ..	Cwts.	21	..	..	210	..	..	21	..
From the Zollverein, exempt from duty ..	,,	48	..	..	360	..	..	48	..
Pianos	,,	21	..	..	210	..	..	21	..
From the Zollverein, exempt from duty ..	,,	66	..	..	495	..	..	66	..

Instruments, unenumerated	,,	383	14	..	1,723	..	..	383	..
Machines of cast iron	,,	6,463	470	80	14,585	15,081	52,359	..	8,618
From the Zollverein, exempt from duty ..	,,	8,412	..	..	16,824	2,952	5,904	5,460	..
For home factories, &c. (bearing a lower rate of duty)	,,	29,286	462	250	38,950	76,288	153,233	..	47,002
Of forged iron or of steel..	,,	6,624	99	35	24,704	2,207	7,836	4,417	..
For home factories, &c.	,,	16,668	8	56	44,504	14,129	37,725	2,539	..
Not otherwise described	,,	73	3	9	549	254	3,513	..	181
From the Zollverein, exempt from duty ..	,,	106	..	..	636	35	210	71	..
For home factories, &c. (bearing a lower rate of duty)	,,	178	..	..	712	215	1,337	..	37
Locomotives	,,	106	..	..	795	..	..	106	..
Looms, mechanical	,,	6,048	..	..	..	14,620	..	..	8,572
Cylinders of copper, for home factories ..	,,	263	..	..	197	562	430	..	299
Hardware, superfine—									
Articles of gold and silver, gems, fine pearls, mounted in gold or silver	Lbs.	2,154	11	1	5,541				
The same articles, combined with other materials	,,	1,228	40	..	3,223	8,065	21,040	..	3,075
Watches of gold or silver	,,	1,608	196	..	4,221				
Fine—									
Gold and silver, in sheets or leaves ..	,,	378	..	..	378				
Articles of gold, silver, gems, pearls, (genuine or imitation)	,,	806	..	..	806	41,569	37,076	..	17,103
Jewellery, gilt, silvered, &c., also in combination with other materials	,,	4,985	..	..	4,985				
All other articles of this class	,,	18,297	59	..	18,105				
Common	Cwts.	86	1	..	3,860	266	13,238	..	180
From the Zollverein, exempt from duty ..	,,	77	..	..	2,310	115	2,693	..	38
Gut strings (unenumerated)	,,	3	..	..	90	1	30	2	..
Most common	,,	851	1	..	12,765	2,056	31,909	..	1,105
20. *Chemical Products, Colours, Grease, and Matches.*									
Medical drugs, prepared	,,	330	9	..	4,950	..	..	330	..
Glue of all sorts	,,	1,248	13	66	936	1,756	933	..	508

Description of Goods.		Total of Imports.	By Sea to		Duties Levied.	During the same period of the preceding year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Imports.	Duties Levied.		
					Florins.		Florins.		
Starch, surrogates of gum	Cwts.	6,419	8	446	3,742	10,628	6,823	..	2,409
Dextrin, leogome, from the Zollverein, exempt from duty	,,	240	..	..	..	128	..	112	..
Inks of all kinds	,,	1,890	..	81	1,417	2,982	580	..	1,092
Cart grease	,,	1,691	1	3	1,268	2,498	1,088	..	807
Gluten	,,	47	..	..	35	..	..	47	..
Shoemaker's wax	,,	49	..	..	37	..	..	49	..
Chemical products, fine, viz.: cherry-laurel water, also blacklead pencils, &c. ..	,,	350	61	..	5,250	181	2,787	..	81
Blacklead and red pencils, inks, &c., from the Zollverein, exempt from duty	,,	298	..	..	3,576	379	3,004	..	416
Colours, fine, viz., varnish, Indian ink, &c. ..	,,	725	1	1	10,830	1,141	17,287	..	81
From the Zollverein, exempt from duty ..	,,	65	..	..	780	49	588	..	416
Yeast, dried	,,	5	..	..	25			16	
Sealing wax	,,	86	..	..	430	9,166	46,915	..	2,043
All other articles	,,	7,032	45	34	34,812				
Wax candles and torches	,,	542	..	12	3,124	..	..	542	..
Stearine candles	,,	840	12	..	4,410	..	..	840	..
Spermaceti candles	,,	1	..	..	5	..	..	1	..
Grease, not otherwise described	,,	28	..	..	147	..	..	28	..
Tallow candles	,,	83	..	..	122	..	..	83	..
Soap, common	,,	6,203	134	2	11,861	7,947	15,473	..	1,744
Imported from Sardinia	,,	206	..	..	541	221	579	..	15
Fine	,,	127	1	..	2,000	164	2,583	..	37
Matches, common	,,	219	..	..	164	..	..	219	..
Gunpowder	,,	1	..	..	26	..	..	1	..
Fulminating gold, &c.	,,	..	..	..	..	..	..	..	..

21. *Works of Art and Literature.*											
Books, printed	..	,,	2,087	87	2	6,295	2,889	8,753	..	802
From the Zollverein, exempt from duty	..	,,	11,825	..	..	..	15,565	..	..	3,740
Maps and charts	..	,,	16	..	..	50	..	..	16	..
From the Zollverein, exempt from duty	..	,,	134	..	..	..	..	..	134	..
Printed music	..	,,	12	..	..	38	..	..	12	..
From the Zollverein, exempt from duty	..	,,	364	..	..	..	..	..	364	..
Prints and engravings	..	,,	143	2	..	1,081	196	1,443	..	53
From the Zollverein, exempt from duty	..	,,	369	..	..	..	423	..	..	54
Photographs	..	,,	3	..	..	24	..	..	3	..
From the Zollverein, exempt from duty	..	,,	3	..	..	..	..	..	3	..
Oil cakes, &c.	..	,,	3,809	..	..	..	..	..	3,809	..
Rags, waste paper, &c.	..	,,	348	63	3	..	..	..	348	..
Bones, ground or not	..	,,	241	..	..	..	..	..	241	..
Animal charcoal	..	,,	420	..	..	..	..	..	420	..
Hoofs of cattle	..	,,	803	..	..	..	..	..	803	..
Horn tips, pieces of horns, &c ..	..	,,	2,669	..	..	..	..	..	2,669	..
Refuse, or clippings of skins ..	..	,,	65	..	..	..	..	..	65	..

EXPORTS.

(Exclusive of Dalmatia.)

Description of Goods.		Total of Imports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
1. *Colonial Products and Tropical Fruits.*					Florins.		Florins.		
Coffee, raw	Cwts.	20	9	..	..	..	..	20	..
,, surrogates	,,	960	155	..	..	..	..	960	..
Pepper, of all sorts	,,	91	8	..	..	..	..	91	..
All sorts of common spices	,,	21	1	..	..	..	..	21	..
Almonds	,,	6	..	..	..	..	..	6	..
Dried grapes	,,	1	..	..	..	..	..	1	..
All other sorts of fine tropical fruits	,,	1	..	..	..	..	..	1	..
All other sorts of middle fine tropical fruits	,,	29	..	..	..	..	..	29	..
Carob bean	,,	1	..	..	..	..	..	1	..
All other sorts of common tropical fruits	,,	47	20	..	..	..	..	47	..
Sugar, refined	,,	431	14	..	..	..	..	431*	..
,, ,, (exported for drawback)	,,	64,472	16,199	..	..	90,333	..	..	25,861
,, crushed (unrefined sugar) and liquid	,,	1	1	..	..	..	..	1*	..
,, ,, (exported for drawback)	,,	11,324	7,575	..	..	225,484	..	..	214,160
Molasses or syrup	,,	22	12	..	..	..	..	22*	..
2. *Tobacco, raw and manufactured.*									
Tobacco, raw	,,	56,137	8,496	..	..	117,922	..	.	61,785
,, manufactured	,,	2,029	1,173	..	..	2,155	..	..	126

* Since April 1, 1866.

3. *Agricultural Produce.*									
Produce of gardens—									
Fresh	,,	123,208	11,907	..	..	121,138	..	2,070	..
Prepared	,,	3,616	334	..	..	14,618	..	..	11,002
Fruit—									
Raw	,,	102,023	5,900	..	..	115,918	..	..	13,895
Preserved	,,	17,899	189	..	..	44,362	..	..	26,463
Nuts, viz., walnuts and hazel-nuts, raw and dried	,,	2,495	240	..	..	1,134	..	1,361	..
Wheat, husked, spelt	,,	3,275,630	1,436,160	668	..	3,418,027	..	..	142,397
Rye	,,	309,780	3,307	..	..	} 783,179	..	..	366,623
Meslin, buckwheat, millet, &c.	,,	106,776	184	..	..				
Indian corn	,,	426,082	310,127	5,679	..	144,251	..	281,831	..
Beans, pease, lentils, vetches, chick-peas	,,	75,937	5,000	..	..	144,835	..	..	68,898
Barley and malt	,,	1,092,390	177,859	718	..	633,737	..	458,653	..
Oats	,,	1,091,226	182,565	507	..	560,551	..	530,675	..
Rice	,,	73,657	7,981	23	..	95,855	..	..	22,198
,, in the husk	,,	17	..	..	..	76	..	..	59
Meal and flour	,,	907,336	326,632	277	..	849,809	..	57,527	..
Other products of grinding	,,	18,554	3,119	..	..	22,483	..	..	3,929
Hops	,,	5,657	162	..	..	7,978	..	..	2,321
Mulberry leaves	,,	120	..	..	..	634	..	..	514
Rape seed	,,	167,382	..	..	..	} 347,522	..	..	121,130
All other sorts of oil seeds	,,	59,010	357	..	..				
Clover seed	,,	70,539	1	..	..	35,951	..	34,588	..
Seeds, unenumerated, for agricultural and horticultural purposes	,,	9,120	40	..	..	4,940	..	4,180	..
Mustard seed, in grains or pulverized	,,	10	..	..	..	..	..	10*	..
Anise and cummin	,,	375	68	..	..	..	..	375*	..
Succory roots	,,	3	..	..	..	..	..	3*	..
Fleabane, seeds of forest trees, coriander and dyer's broom	,,	412	107	..	..	..	..	412	..

* Since April 1, 1866.

Description of Goods.		Total of Exports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
4. *Animals.*					Florins.		Florins.		
Fish, fresh, living and killed	Cwts.	2,175	4	..	..	..	..	2,175*	..
Crawfish, fresh; snails, castors, otters, frogs	,,	29	..	..	..	..	..	29*	..
Herrings, salted	,,	143	..	..	..	..	..	143*	..
,, smoked	,,	..	..	..	..	..	..	..	..
Codfish	,,	..	4	..	..	..	..	4*	..
Fish, preserved, unenumerated, viz., anchovies	,,	137	..	..	..	..	..	137*	..
All other descriptions	,,	180	..	..	..	..	..	180*	..
Shells and shell-fish, as oysters, lobsters, &c.	..	..	..	..	..	..	..	..	..
Bulls and oxen	Number	58,915	2,728	363	..	52,292	..	6,623	..
Cows	,,	22,374	16	..	..	17,439	..	4,935	..
Bullocks and heifers	,,	13,626	..	..	..	10,945	..	2,681	..
Calves	,,	34,214	51	445	..	29,388	..	4,826	..
Sheep, goats, rams, wethers, bucks	,,	122,343	522	316	..	175,886	..	..	53,543
Lambs and kids, not exceeding 28 lbs.	,,	23,295	1,539	32	..	23,418	..	..	123
Swine	,,	154,327	369	393	..	67,238	..	87,089	..
Sucking pigs, not exceeding 28 lbs.	,,	22,415	..	..	..	11,902	..	10,513	..
Horses and foals	,,	9,377	59	..	..	16,853	..	..	7,476
Asses and mules	,,	96	..	..	..	419	..	..	323
Leeches	,,	61,718	155	..	..	..	..	61,718*	..
5. *Animal Products (not contained in other classes.)*									
Hides and skins, viz.—									
Cow, ox or bull, horse, ass, camel, &c., raw	Cwts.	15,813	90	2	39,532	38,116	95,643	527	..
Calf-skins, undressed	,,	15,124	233	1	37,810				
Sheep, lambs, and goats	,,	7,109	8	3	17,772				
Coney and hares	,,	597	..	1	1,492				

* Since April 1, 1866.

Unenumerated	..	..	..	,,	677	1	..	..	524	..	153	..
Furs	..	..	..	,,	877	6	..	..	..	..	577*	..
Feathers—												
For beds	..	..	..	,,	5,055	..	..	..	..	..	..	..
Ornamental, unmanufactured		..	..	,,	1	..	..	..				
Quills, raw	..	..	..	,,	..	..	..	..	31,898	..	..	6,142
,, not otherwise enumerated		..	..	,,	20,700	..	..	.				
,, prepared (writing-pens)		..	..	,,	16	1	..	..	9	..	7	..
Meat, fresh	..	..	..	,,	276	4	..	..	325	..	..	49
,, preserved		..	..	,,	5,095	933	..	..	1,566	..	3,529	..
Sausages	..	..	..	,,	1,827	405	..	..	1,837	..	..	550
Honey, hydromel and hives		..	..	,,	1,550	64	..	..	..	..	1,550*	..
Wax	..	..	..	,,	1,903	80	..	..	..	..	1,903*	..
Cheese	..	..	..	,,	8,534	1,183	..	..	8,208	..	326	..
Silkworms	..	..	..	,,	15	..	..	..	..	..	15*	..
Milk, cream, curd		..	..	,,	2,573	128	..	..	..	..	2,573*	..
Animal products, unenumerated		..	..	,,	855	15	..	..	..	..	855*	..
6. *Grease and Oils.*												
Butter, fresh, salted, or melted		..	..	,,	67,880	23,578	..	..	50,625	..	17,255	..
Goose fat, hogs' grease, bacon		..	..	,,	117,593	10,976	..	..	36,106	..	81,489	..
Spermacetti	..	..	..	,,	2	..	..	..				
Stearine	..	..	..	,,	1,045	27	..	..	2,707	..	..	1,436
Paraffine	..	..	..	,,	226	33	..	..				
Train or blubber		..	..	,,	149	..	..	..	143	..	6	..
Grease, unenumerated		..	..	,,	6,266	284	..	..	8,681	..	..	2,415
Oils—												
In jars or bottles		..	..	,,	719	19	..	..	1,003	..	..	284
Olive, in casks, &c.		..	..	,,	205	6	..	..	400	..	..	195
Cocoa-nut and palm, in casks		..	..	,,	85	..	..	..	13	..	72	..
Rapeseed	..	..	..	,,	5,321	1,056	..	..				
Linseed	..	..	..	,,	462	..	..	..	12,135	..	..	998
Not particularly enumerated, in casks			..	,,	5,354	816	..	..				

* Since April 1, 1866.

Description of Goods.		Total of Exports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
7. Articles of Food.					Florins.		Florins.		
Beer, in glass or stone bottles	Cwts.	362	113	..	..	198	..	164	..
,, in casks (exported for drawback) ..	,,	118,340	55,738	..	..	117,968	..	372	..
,, ,, (without drawback of excise) ..	,,	18,177	60	..	..	17,400	..	777	..
Brandy, &c. (exported for drawback) ..	,,	106,916	84,034	..	..	69,965	..	36,951	..
,, (without drawback of excise) ..	,,	17,722	143	..	..	6,442	..	1,280	..
Arrack and rum (exported for drawback) ..	,,	1,370	..	..	..	1,438	..	..	68
,, (without drawback of excise) .	,,	198	6	..	..	320	..	..	122
Liqueurs, &c.	,,	297	25	..	..	405	..	..	108
Wine, in glass and stone bottles	,,	3,996	390	..	..	4,635	..	..	639
The same, in casks; also grapes	,,	278,049	12,041	59	..	194,334	..	83,715	..
Articles of food, not contained in other classes—									
Bread, common, &c.	,,	2,822	1,859	..	..	..	..	2,822	..
Paste	,,	291	3	45	..	..	..	291	..
Articles of food, fine	,,	464	359	..	..	..	..	464	..
8. Fuel, Timber, and other Building Materials.									
Wood, for fuel	100 cubic ft.	31,944	2,513	186	..	40,065	3,086	..	8,121
Timber, common, raw and prepared . ..	,,	404,993	78,726	1,841	..	414,119	44,471	..	9,126
,, other than European	Cwts.	48	23	..	..	937	..	..	889
Charcoal	,,	63,949	9,211	..	..	..	..	63,949	..
Fossil coals, brown coals	,,	6,397,955	349,575	..	..	5,795,671	..	602,284	..
Teeth of animals, raw	,,	26	..	..	..	..	..	26	..
Meerschaum	,,	14	..	..	..	..	..	14	..
Amber	,,	3	..	..	..	..	..	3	..

Minerals, not contained in other parts—										
Roofing tiles, bricks	,,	215,743	1,225	..	..	323,648	..	..	107,905	
Lime	,,	85,488	4,124	..	..	..	..	85,488*	..	
Gypsum (plaster of Paris)	,,	10,793	609	..	..	..	..	10,793*	..	
Manganese	,,	367	..	..	..	..	..	367*	..	
Chalk of all kinds	,,	1,764	57	..	..	2,138	..	..	374	
Coloured earths	,,	26,742	11,263	..	..	..	..	26,742*	..	
Graphite (black lead)	,,	75,937	253	..	..	67,260	..	8,677	..	
Stones called "kehlheimer"	,,	910	..	..	..	244	..	666	..	
Stones for lithography (with or without lithographs)	,,	220	1	..	..	..	..	220*	..	
Grindstones, fine, of all descriptions; touchstones	,,	824	2	..	..	676	..	148	..	
Pyrites (flints)	,,	13	..	..	..	2	..	11	..	
Slate—tablets (framed), pencils, paper, &c. ..	,,	1,362	1,001	..	..	..	..	..	..	
Chalk and ruddle, shaped..	,,	90	4	..	..	..	..	..	..	
Pumice- and emery-stone, powder and other preparations of	,,	84	..	..	..	..	..	..	..	
Pumice-stone, shaped	,,	13	1	..	..	..	..	..	..	
Paper coated with pumice, glass, sand, or emery	,,	2	1	..	..	..	..	..	..	
Writing sand, coloured	,,	18	10	..	..	..	..	..	..	
All other sorts of stones, not particularly enumerated, polished	,,	464	6	..	..	597	..	..	..	
All the other articles of this class	,,	1,648	239	..	..	1,878	..	..	..	
9. *Medical Drugs, Perfumery, Dye Stuffs, Substances used in Tanning, Accessory Stuffs for Chemical Purposes.*										
Ambergris, castor, &c.	,,	58	45	..	..	..	..	58	..	
Essential oils, balsams, &c.	,,	464	2	..	..	} 218	..	283	..	
Sponges	,,	37	2	..	..					
Dye woods, in blocks	,,	622	..	..	..	258	..	364	..	
Dye roots, common	,,	1,548	3	..	..	818	..	730	..	

* Since April 1, 1866.

Description of Goods.		Total of Exports.	By Sea to		Duties levied.	During the same period of the preceding year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
Bablah	Cwts.	2	..	..	..	1	..	1	..
Catechu, terra Japonica	,,	1	..	..	..	..	..	1	..
Quercitron	,,	..	..	..	..	3	..	..	3
Tan	,,	82,887	369	..	..	..	..	82,887	..
Sumach	,,	8,939	231	..	..	..	..	8,939	..
Acorn	,,	1,387	..	..	..	306	6	1,081	..
Valonia	,,	10,684	619	..	..	10,463	2,504	221	..
Gall-nuts of all sorts	,,	107	..	..	..	1,643	415	..	1,537
Madder, weld	,,	459	4	..	..	1,876	..	..	1,417
Safflower	,,	..	..	..	..	14	..	..	14
Dye woods, other than in blocks	,,	1,568	106	..	..	1,934	..	..	366
Cochineal	,,	251	2	..	..	370	..	..	119
Extracts of madder, garancine, &c.. ..	,,	43	3	..	..	49	..	..	1
Indigo	,,	275	39	..	..	426	..	..	151
Avignon berries..	,,	5	..	..	..	129	..	..	124
Lac dye	,,	5	..	..	..	7	..	..	2
Terra Orleana	,,	1	..	..	..	..	..	1	..
Extracts of dye stuffs	,,	190	3	..	..	1,029	..	315	..
Extracts of substances used in tanning ..	,,	1,154	..	..	..				
Archil, prepared	,,	377	..	..	..	614	..	..	237
Cudbear (Persio)	,,	..	..	..	..				
Rosin, common..	,,	12,379	6,946	..	..	..	..	12,379	..
Tar	,,	586	272	..	..	..	..	586	..
Colophony	,,	880	1	..	..	..	..	880	..
Asphalt and other kinds of bitumen, earth, pitch, mineral tar	,,	106	14	..	..	..	..	106	..
Turpentine oil, &c.	,,	446	113	..	..	..	..	446	..
Benzoin	,,	8	..	..	..	..	..	8	..
Gutta percha	,,	7	..	..	..	..	..	7	..

All other kinds of gums and vegetable juices, not particularly enumerated	„	204	3	..	..	..	..	204	..
Kitchen salt, mother water, salt given to animals to lick	„	804,670	..	..	..	939,490	..	..	134,820
Arsenic, arsenical acid	„	2,450	39	..	..	2,393	..	57	..
Realgar, orpiment	„	40	..	..	..	171	..	..	131
Iron liquor	„	274	..	..	..	..	..	274	..
Mineral water, natural	„	41,248	1,568	..	..	46,822	..	..	5,574
„ artificial	„	9	..	..	..	18	..	..	9
Potash	„	21,934	395	..	..	32,739	7,120	..	10,805
Saltpetre, raw (nitrate of potash)	„	168	2	..	..	..	..	168	..
Chilian saltpetre (nitrate of soda)	„	725	..	..	..	..	..	725	..
Brimstone (in rolls, flour, &c.)	„	5,371	..	..	..	..	..	5,371	..
Antimony	„	6,267	486	..	..	4,449	..	2,928	..
Regulus of antimony	„	1,110	106	..	..				
Argol, raw	„	7,467	599	..	..	8,336	3,463	..	869
Cream of tartar	„	2,165	233	..	..	2,039	..	126	..
Sulphate of iron	„	21,387	3,749	..	..	22,532	..	..	1,145
Muriatic potash	„	200	..	..	..	55	..	145	..
Sulphite and bisulphite of potash	„	36	..	..	..	..	..	36	..
Sulphite and bisulphite of soda	„	120	..	..	..	..	..	120	..
Sulphuric acid	„	9,715	362	..	..	13,574	..	..	1,673
Muriatic acid	„	2,186	26	..	..				
Nitric acid (aqua fortis)	„	2,274	77	..	..	2,048	..	230	..
Aqua regia	„	4	..	..	..				
Soda	„	2,373	195	..	..	..	..	2,373	..
Saltpetre, refined	„	395	276	..	..	785	..	..	390
Copperas of all sorts	„	466	12	..	..	3,530	..	..	3,064
Silicate of soda ("wasserglas")	„	27	..	..	..	..	..	27	..
Alum	„	1,989	9	..	..	4,378	..	..	2,389
Sal ammoniac	„	82	1	..	..	218	..	..	136
Hartshorn spirit and spirits of sal ammoniac ..	„	40	16	..	..	..	..	40	..
Borax, refined	„	1	..	..	..	..	..	1	..
Chloride of lime	„	863	81	..	..	701	..	162	..
Chromate of potash	„	885	352	..	..	898	..	..	13
Red lead	„	2,122	534	..	..	2,190	..	..	68

Description of Goods.		Total of Exports.	By Sea to		Duties. levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
					Florins.		Florins.		
Bicarbonate of potash	Cwts.	1	..	..	..	..	..	1	..
Bicarbonate of soda	,,	84	1	..	..	..	..	84	..
Smalts	,,	8	..	..	..	..	..	8	..
Tartaric acid	,,	705	21	..	..	..	..	705	..
White lead	,,	3,339	2,614	..	..	4,249	..	..	528
White of zinc	,,	382	83	..	..				
Acetate of lead	,,	242	..	..	..				
Prussiate of kali	,,	724	1	..	..	1,776	..	..	430
Caustic soda	,,	103	..	..	..				
All other articles of this class	,,	277	..	..	..				
10. *Metals, Unwrought and Wro* .									
Ore of lead	,,	9,171	..	..	..	..	..	9,171	..
Ores of zinc	,,	19,322	11,600	..	..	..	..	19,322	..
Ore of iron	,,	482	..	..	..	..	..	482	..
Ore of tin	,,	12	..	..	..	..	..	12	..
Spadium or tutty	,,	57	..	..	..	..	..	57	..
Ore of cobalt and nickel	,,	10,705	..	..	..	..	..	10,705	..
Lead, raw	,,	31,286	498	..	..	4,603	..	26,683	..
Litharge	,,	12,665	663	..	..	14,449	..	..	1,784
Lead, rolled	,,	172	3	..	..	2,895	..	..	1,395
Printing type, stereotype	,,	221	30	..	..				
Lead in moulds	,,	1,107	540	..	..				
Iron, raw, old, and broken, &c.	,,	52,587	1,400	..	..	11,685	..	40,902	..
Iron, refined, half manufactured	,,	65,037	17,629	..	..	48,349	..	16,688	..
Rails (for railways)	,,	3,395	67	..	..	2,284	..	1,111	..
Steel of all kinds	,,	58,589	28,854	..	..	51,832	..	6,757	..
Iron-plate, black, iron-plate, raw, unpolished	,,	12,358	6,594	..	..	15,360	..	..	3,002

Steel in sheets, raw, steel-plate, raw, unpolished	„	656	149	..	..	24	..	632	..		
Tires	„	..	..	..	..	21	..	..	..		
Iron in sheets or plates, polished, &c. ..	„	1,446	301	..	..	4,717	..	..	..		
Steel in sheets or plates, polished, &c. ..	„	13	..	..	..	7	..	6	..		
Iron wire	„	20,873	17,556	..	..	21,448	..	..	575		
Steel wire, unpolished	„	18	..	..	..	9	..	9	..		
Iron, refined, wrought, &c.	„	1,569	..	..	..	..	..	..	..		
Anchors, chains, and cables	„	106	..	..	..	1,069	..	652	..		
Articles to be used in coachbuilding and in the construction of machinery, raw	„	46	14	..	..						
Steel wire, polished, steel strings	„	52	..	..	..	85	..	..	33		
Iron, cast, raw	„	63,084	7,447	..	..	31,645	..	..	..		
Quicksilver	„	1,618	110	..	..	1,594	..	..	..		
Zinc, raw	„	7,004	1	..	..	7,651	..	..	..		
„ in plates or sheets, in tubes or wire ..	„	1,433	1,223	..	..	1,457	..	..	..		
„ cast, raw	„	79	..	..	..	1	..	..	..		
Copper, raw (in blocks, rosettes, cakes, and bars), also ashes	„	25,301	47	..	..	9,975	..	..	..		
Nickel, raw, metallic, arseniate of	„	11	..	..	..	3	..	..	..		
Tin, raw, in blocks, bars, &c., and old broken tin	„	101	..	..	..	115	..	..	..		
Brass, raw	„	626	32	..	..	2,184	..	..	613		
Packfong, raw	„	48	..	..	..						
Aluminium, raw	„	..	..	..	..						
All other articles of this class	„	897	..	..	..						
Tin, drawn, &c.	„	137	..	..	..	..	..	137	..		
Copper, wire, sheets, kettles, pans, scales, and the like	„	5,928	2,355	..	..	4,625	..	..	..		
Brass, wire, strings, plates, rolls, and sheets ..	„	2,390	974	..	..	1,677	..	..	..		
Nickel, drawn, &c.	„	3	..	..	..	..	..	..	..		
Packfong, drawn, &c.	„	210	120	..	..	1,081	..	..	675		
All other wares of this class	„	393	34	..	..						
Gold, unwrought, old, &c.	Lbs.	552	..	..	..	..	..	552	..		
Silver, unwrought, old, &c.	„	12	..	..	..	..	..	12	..		
Gold coin	„	7,178	3,466	..	..	11,721	..	..	4,543		
Silver coin	„	846,576	26,631	..	..	151,874	..	694,702	..		

Description of Goods.		Total of Exports.	By Sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
11. *Weaving Materials.*					Florins.		Florins.		
Cotton, raw (cotton wool)	Cwts.	19,781	51	..	..	..	..	19,781	..
,, carded	,,	..	..	..	..	..	..	..	..
Flax, and tow or cadilla of	,,	7,651	13	..	..	12,171	..	..	4,520
All other sorts, and tow or cadilla of hemp ..	,,	62,166	2,302	..	..	56,712	..	5,454	..
Sea-grass	,,	26	..	..	..	..	..	26	..
All other articles of this class	,,	513	..	..	..	118	..	395	..
Wool, raw	,,	221,501	1,004	..	..	302,953	..	..	81,452
,, powdered	,,	1,074	..	..	..	883	..	191	..
Cocoons	,,	5,477	60	..	..	5,708	1,640	..	231
Silk, raw, not thrown or twisted	,,	1,015	3	..	..	2,318	6,079	..	1,303
,, waste silk, not spun.. ..	,,	475	20	..	..	3,866	2,558	..	3,391
,, raw, thrown, or twisted	,,	465	..	..	..	1,775	15,414	..	1,310
,, waste silk, spun, not dyed	,,	251	..	..	..	178	..	73	..
,, and waste silk, dyed	,,	38	11	..	..	45	45	..	7
12. *Yarns.*									
Of cotton, unbleached	,,	2,865	19	..	..	2,638	..	227	..
Wad	,,	448	17	..	..	367	..	81	..
Bleached or twisted	,,	396	40	..	..	289	..	107	..
Dyed (twisted or not)	,,	562	105	..	..	597	..	..	35
Of linen, unbleached	,,	37,774	53	..	..	54,122	..	..	16,348
Bleached	,,	878	6	..	..	268	..	610	..
Twisted	,,	1,417	55	..	..	2,176	..	..	759
Woollen (carded) raw	,,	1,695	1	..	..	10,589	..	..	8,894
Worsted (combed) raw	,,	2,553	1	..	..	464	..	2,089	..
Woollen, dyed or twisted..	,,	677	71	..	..	960	..	..	283

13. *Woven Manufactures.*										
Cotton manufactures, common	,,	1,416	193	6	..	1,839	..	..	423
Middle fine, not including printed articles, fringe makers', lacemen's, and button makers' work, ribbons, and hosiery ..	,,	11,350	1,100	71	..	9,881	..	2,346	..
Fringe makers, lacemen, and button makers' work, ribbons, and hosiery	,,	112							
Printed tissues	,,	765							
Fine	,,	524	23	1	..	2,288	..	..	1,764
Superfine	,,	14	..	1	..	42	..	..	28
Linen manufactures, ropemakers' work, unbleached	,,	12,744	497	3	..	16,439	..	..	3,695
Bleached	,,	204	..	..	..	56	..	148	..
Pack linen (grey	,,	8,284	1,448	..	..	8,217	..	67	..
Tissues of linen, most common	,,	38,648	2,596	..	..	42,477	..	..	3,829
Common, thick tissues, printed	,,	621	4,173	87	..	22,018	..	..	3,735
All other kinds	,,	17,662							
Middle fine, cambrics	,,	1,459	203	1	..	2,145	..	..	633
Fringe makers, lacemen, and button makers' work, ribbons, and hosiery	,,	53							
Fine	,,	343	25	..	..	1,038	..	..	695
Superfine	,,	13	..	1	..	27	..	..	14
Woollen manufactures, most common ..	,,	2,523	376	2	..	4,647	..	..	2,124
Common	,,	29,279	4,542	19	..	26,125	..	3,154	..
Middle fine: fringes, button wares, hosiery ..	,,	264	..	..	..	19,138	..	..	2,933
Red caps, or "fez"	,,	219	..	..	..				
All other sorts	,,	15,722	3,123	70	..				
Thick tissues, printed	,,	1,070	30	3	..	172	..	898	..
Fine: shawls, handkerchiefs	,,	312	..	..	..	2,502	..	..	1,312
All other sorts	,,	868	78	2	..				
Superfine	,,	324	..	..	..	650	..	..	326
Manufactures of silk, fine, of pure silk ..	,,	282	90	1	..	434	..	..	91
Of silk mixed with gold or silver threads, or with spun glass	,,	1	..	..	..				
Ribbons	,,	60	16	..	..				

Description of Goods.		Total of Exports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total Exports.	Duties levied.		
					Florins.		Florins.		
Common, shawls	Cwts.	350	..	..	..	} 5,254	..	1,104	..
All other articles not enumerated	,,	6,008	1,741	2	..				
Wax and oil silk cloth, common	,,	19	9	..	..	..		19*	..
Fine	,,	55	5	..	..	..	..	55*	..
Waxed taffeta	,,	4	..	..	..	..		4*	..
Silk tissues, mixed with india rubber or gutta percha	,,	2	..	..	..	..	..	2*	..
Articles of clothing and millinery, common ..	,,	5,403	1,724	4	..	4,806	..	597	..
Fine: hats and caps of felt	,,	123	..	..	..				
All other kinds	,,	2,130	54	..	..	} 2,424	..	..	171
Superfine: false flowers	,,	147	15	..	..				
All other kinds	,,	468	40	..	..	} 583	..	32	..
14. *Articles of Bristles, Bast, Rush, Grass, Straw, &c.; Paper and Stationery.*									
Brushmakers' and sieve makers' wares, common	,,	303	60	2	..	..	..	303*	..
Fine	,,	94	..	..	..	..	..	94*	..
Articles of bast, rush, grass, reed, cane, and straw, most common	,,	6,834	44	..	..	5,500	..	1,334	..
Cane, raw, cleft	,,	212	..	..	..	9	..	203	..
Common	,,	581	11	..	..	1,067	..	..	486
Middle fine	,,	624	51	..	..	934	..	..	310
Fine	,,	44	18	..	..	182	..	..	138
Superfine	,,	70	23	..	..	99	..	..	29
Paper, most common	,,	24,127	2,018	252	..	32,613	..	..	8,486
,, common	,,	13,729	5,200	477	..	38,042	..	..	14,313

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,, fine, coloured	,,	2,137	13,558	1,642	..	43,621	..	1,979	..		
,, all other sorts	,,	43,463									
,, superfine	,,	1,196	..	..	..	713	..	483	..		
Paper hangings	,,	164	30	..	..	136	..	28	..		
Playing cards	,,	602	351	2	..	505	..	97	..		
Paper wares: of paper and pasteboard; also paper works, combined with other materials	,,	10,058	5,979	..	..	5,305	..	4,753	..		
15. *Leather and Leather-wares, Furs, and other such like Articles.*											
Furs, raw	,,	31	..	..	..	..	..	31	..		
,, ready made	,,	112	2	..	..	..	..	112	..		
Leather, common	,,	12,107	1,577	226	..	12,768	..	..	661		
India-rubber, in plates or threads; also gutta percha, more or less purified	,,	28	16	8	..	2	..	..	26		
Leather, fine	,,	988	77	2	..	1,173	..	..	185		
Manufactures of leather and India-rubber, common, such as shoemakers' wares ..	,,	227	..	..	..	..	..	..	..		
Saddlers' wares	,,	93									
Manufactures of caoutchouc and gutta percha .	,,	219	875	..	..	7,182	..	..	1,964		
Trunkmakers' wares	,,	109									
All other kinds	,,	4.570									
Leather wares, fine	,,	2,940	190	..	..	3,025	..	..	53		
Manufactures of caoutchouc and gutta percha, fine	,,	32	..	..	..						
Gloves	,,	425	11	..	..	290	..	135	,,		
16. *Wooden-wares, Earthenware, Stoneware, and Glasswares.*											
Wooden-wares, most common	,,	77,402	6,135	9	..	97,754	..	..	20,352		
,, common, viz.: veneers, common	,,	1,101	466	..	..	8,248	..	..	867		
Inlays	,,	378	..	..	..						
,, articles of cork	,,	197	9	..	..						
,, all other kinds	,,	5,705	797	..	..						

Description of Goods.		Total of Exports.	By sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
					Florins.		Florins.		
Inlays, fine	Cwts.	25,342	2,846	..	..	28,730	..	..	3,388
,, superfine, viz., furniture (household) stuffed	,,	343	30	..	..	..	..	..	..
,, basket-makers' work, fine	,,	78	..	..	..	7,774	..	..	1,284
,, veneers, with insertions	,,	13	..	..	..				
,, all other articles of this class	,,	6,056	166	..	..				
Glass—									
Most common	,,	35,163	739	..	..	28,195	..	6,968	..
Common	,,	55,228	27,003	..	..	54,984	..	244	..
Middle fine	,,	21,650	2,281	..	..	30,134	..	..	8,484
Fine, all glass coloured, painted, gilt, silvered, &c.	,,	47,145	1,507	..	..	..	..	..	..
Imitation gems, unset	,,	36	..	..	..	57,804	..	..	9,532
Mirror-glass, not exceeding 284 square Vienna inches each	,,	1,091	147	..	..				
Superfine, viz., mirrors, the glass measuring above 284 square Vienna inches each	,,	1,656	171	..	..	1,276	..	2,090	..
All other articles of this class	,,	1,710							
Coral, real, wrought but unset	,,	2	1	..	..	..	..	2*	..
Statues of stone, exceeding 10 lbs. each	,,	727	..	..	..	..	..	729*	..
All other articles	,,	409	..	..	..	..	..	409*	..
Earthenware, most common	,,	22,654	1,656	5	..	25,769	..	..	3,115
,, common	,,	7,966	1,125	..	..	8,889	..	..	923
,, middle fine	,,	5,670	612	..	..	3,182	..	2,488	..
,, fine	,,	5,706	700	..	..	7,782	..	..	2,076

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17. *Metal Wares.*										
Iron wares—										
Most common	,,	43,206	9,163	..	..	38,494	..	4,716	..	
Iron-wire, coppered	,,	4								
Common, viz., scythes, sickles, chopping-knives	,,	12,462	6,936	..	..	64,099	..	..	7,296	
Edge tools	,,	211								
All other articles of this class	,,	44,130								
Fine: steel-pens, clock-works, and parts thereof	,,	125	11	..	..	10,707	..	..	2,533	
Tambour-hook, and knitting-needles	,,	3	..	..	..					
All other articles, not combined with other materials	,,	5,016	3,166	..	..					
All other articles, combined with other materials	,,	3,030	66	..	..					
Arms	,,	459	173	..	..	1,384	..	..	925	
Needles for sewing	,,	15	..	..	..	..	..	15*	..	
Metal wares—										
Manufactures of zinc and tin, common	,,	11	..	..	..	103	..	..	92	
Metal wares, unenumerated, except copper wares	,,	2,897	403	..	..	4,463	..	..	1,152	
Copper wares	,,	414	..	..	..					
Fine	,,	2,845	601	..	..	1,206	..	1,639	..	
18. *Ships and Carriages.*										
Ships and boats, wooden	Tons of 20 centners	106,261	..	..	..	225,192	..	..	18,931	
Of iron or other metal	,,	5	..	..	..	..	..	5	..	
Carts and waggons, also sledges	Number	152	..	..	..	237	..	..	85	
Carriages, also sledges, without leather or upholstery ware	,,	1,151	2	..	..	1,606	..	..	450	
Carriages, also sledges, with leader or upholstery ware	,,	828	9	..	..	727	..	101	..	
Railway carriages	,,	1	..	..	..	..	..	1	..	

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Description of Goods.		Total of Exports.	By Sea to		Duties Levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
					Florins.		Florins.		
19. *Instruments, Machines, and Hardware.*									
Instruments, musical, other than pianos ..	Cwts.	1,174	228	..	..	2,686	..	..	1,512
Pianos	,,	2,113	587	..	..	2,071	..	42	..
Instruments, unenumerated	,,	1,274	211	..	..	370	..	904	..
Machines of cast iron	,,	15,510	949	610	..	11,645	..	3,765	..
Of forged iron or of steel	,,	7,421	195	92	..	7,679	..	..	258
Not otherwise described	,,	950	26	..	..	1,384	..	..	..
Moveable engines	,,	..	..	..	..	..	..	..	454
Locomotives	,,	2,989	..	..	..	..	..	2,989	..
Hardware, superfine—									
Articles of gold and silver, gems, fine pearls, mounted in gold or silver	lbs.	112	8	..	..	196	..	..	73
The same articles combined with other materials	,,	11	..	..	..				
Fine									
Gold and silver, in sheets or leaves (genuine)	,,	12	..	..	..	4,132	..	..	398
Articles of gold, silver, gems, pearls (genuine or imitation)	,,	6	..	..	..				
Jewellery, gilt, silvered, &c.	,,	222	1	..	..				
All other articles of this class	,,	3,494	71	1	..				
Common	Cwts.	17,506	2,467	1	..	22,157	..	..	4,651
Gut strings (unenumerated)	,,	..	..	..	..	..	..	..	..
Most common	,,	22,061	31	..	..	23,575	..	..	1,515
20. *Chemical Products, Colours, Grease, and Matches.*									
Medical drugs, prepared	,,	662	137	..	..	..	..	662	..

Glue of all sorts	,,	2,879	333	,,	,,	2,164	..	715	,,
Starch, surrogates of gum	,,	6,203	703	..	..	6,299	..	..	96
Inks of all kinds	,,	2,833	1,654	..	..	6,167	..	..	3,334
Cart grease	,,	445	5	..	..	809	..	..	364
Shoemakers' wax	,,	2,581	967	..	..	..	..	2,581	..
Chemical products, fine, viz., cherry-laurel water, also black lead pencils, &c.	,,	1,254	568	..	..	557	..	697	..
Colours, fine, viz., varnish, Indian ink, &c.	,,	1,380	198	..	..	2,141	..	..	761
Yeast, dried	,,	822	484	..	..	..	..	..	..
Sealing wax	,,	131	45	..	..	11,397	..	..	4,076
All other articles	,,	6,368	943	..	..				
Wax candles and torches	,,	307	6	1	..	48	..	259	..
Stearine candles	,,	5,778	564	..	..	6,279	..	..	437
Spermaceti candles	,,	64	..	..	..				
Grease, not otherwise described	,,	323	..	..	..	..	..	323*	..
Tallow candles	,,	284	..	81	..	298	..	..	14
Links	,,	102	..	..	..	30	..	72	..
Soap, common	,,	1,525	144	209	..	3,173	..	..	1,648
Fine	,,	595	46	..	..	465	..	130	..
Matches, common	,,	66,904	25,391	1	..	67,609	..	..	705
Percussion caps	,,	173	23	..	..	335	..	..	162
Gunpowder	,,	1,260	1,260	..	..	36	..	1,224	..
Fulminating gold, &c.	,,	54	54	..	..	..	..	54	..
21. *Works of Art and Literature.*									
Books, printed	,,	8,381	380	..	..	..	..	..	..
Maps and charts	,,	12	..	..	..	10,606	..	..	1,977
Printed music	,,	236	1	..	..				
Prints and engravings	,,	283	15	..	..	312	..	..	2
Photographs	,,	27	..	..	..				
Oil cakes, &c.	,,	125,723	65,321	..	..	..	..	125,723	..
Rags, waste paper, &c.	,,	38,657	7,103	44	84,353	22,075	50,791	16,582	..

* Since April 1, 1866.

Description of Goods.		Total of Exports.	By Sea to		Duties levied.	During the same period of the previous year.		Increase.	Decrease.
			Trieste.	Fiume.		Total of Exports.	Duties levied.		
					Florins.		Florins.		
Bones, ground or not	Cwts.	5,465	..	..	4,099	6,983	5,279	..	1,518
Animal charcoal	,,	39,460	..	..	..	85,899	..	..	46,439
Hoofs of cattle	,,	841	..	..	631	1,547	1,177	..	706
Horn tips, pieces of horns, &c.	,,	4,705	238	..	..	1,683	..	3,022	..
Refuse or clippings of skins	,,	485	..	..	364	411	315	74	..
Refuse or clippings of leather	,,	..	..	..	..	5	..	..	5

It will not be out of place, to add here some observations on the apparent causes of the increase or decrease in the imports and exports of some of the above-mentioned articles.

Imports.—Though the import of almonds and other finer tropical fruits, in consequence of a larger production in Sicily and Greece, had been considerable at the beginning of last year, yet there was upon the whole, in comparison with 1865, a diminution in this branch of import trade, which is chiefly owing to the general stagnation caused by the war.

The duty on corn imported from Russia and Moldavia to Galicia, and the Bukovina, having been reduced from 35, 27, and 18 kreuzers to one uniform rate of $7\frac{1}{2}$ kreuzers a hundred weight of the German Zollverein, larger quantities of Russian and Moldavian wheat, rye, and oats were brought for consumption into the above-named Austrian provinces.

The import of Indian corn, of meal and flour was less last year than it had been in 1865, the Russian Government having deemed it necessary, in the month of January 1866, to prohibit the export of maize from Bessarabia and Moldavia to the Bukovina, which prohibition was still more rigidly executed from the month of March.

The imports of flour were further prejudiced by the temporary interruption of communication in consequence of the war, as well as by the good results of the home production.

The import of herrings decreased by 6,706 cwts., owing to the ill-success of last year's fisheries, and the consequent rise in the prices of the article. On account of the restricted import and of a reduction in the Customs duty levied on this article (since February 1, 1866), there was also a considerable decrease in the amount of this duty.

Very small was the import of cheese into the Lombardo-Venetian kingdom, the transport by rail being interrupted on account of the Austro-Italian war. The cheese produce of Austria is said to have recently so greatly increased, that the quantity produced is almost equal to the demand.

The import of linseed and rapeseed oil is decreasing in proportion as the use of the petroleum is becoming more general in Austria.

Rum and arrack are imported in smaller quantities than formerly, since the lower classes of the population of this country begin to prefer the cheaper substitutes of native production.

In consequence of the cession of Venetia, the supply of macaroni and such like articles of food from that part of Italy to Austria has nearly ceased, and, at present, the people of this empire are supplied with the product of home factories. One of them (at Raab in Hungary) sends its produce even to England, Turkey, and America.

The import of madder decreased on account of madder root being now cultivated to a larger extent in Austrian Silesia, whence this dye stuff may be obtained at a lower rate than from foreign markets.

The diminution in the import of copper is for the greatest part attributable to the interrupted communication. In the year 1865, larger quantities of unwrought copper were imported from Servia for the use of the engine manufactory of the Austrian State Railroad Company; in 1866, however, this establishment especially consumed copper coming from Schmöllnitz, in Hungary.

The decrease in the amount of the Customs duty received upon engines of cast iron is principally owing to the circumstance, that the Hof-Eger Railroad Company was allowed to import large quantities of machinery free from duty. The duty-free imports from the Zollverein consisted of sewing machines, engines for the manufacture of paper, and machinery for the Danubian Steam Navigation Company.

Exports.—A large store of refined sugar collected abroad, increased prices of raw and refined sugar at home, as well as the temporary interruption of communication, are declared to be the principal causes for the diminished export of sugar during the last year. Whilst in 1865 the quantity of sugar exported by way of Salzburg and Bohemia amounted to 17,095 and 149,521 cwts. There was in 1866 no export at all in this direction.

Though the shipments of grain, by way of Trieste, for Italy, France, England, and Greece, were not inconsiderable during the first months of 1866, the whole of them remained far inferior to the amount which had been exported in the previous year, partly in consequence of the war, partly in consequence of the exports of grain having been prohibited in Austria since the month of May.

At the beginning of the year, and before this prohibition was announced, there was so large an exportation of Indian corn, rye, oats, and malt from Austria, that the subsequent stagnation of the trade with Southern Germany and Italy, and of the coasting trade during the third quarter of the year, could no longer counteract the favourable results already attained. Nearly the whole of the last-mentioned export of grain was directed to Italy, France, England, and Greece.

The greater part of the beef and pork exported from Austria was sent to England in order to compensate for the want created by the losses which the cattle plague had caused in the living stock of that country. It was from the same cause that also the export of hogs' lard to England was very large.

As regards the produce of the Austrian breweries, its export is continually increasing, thanks to its excellent quality and to the facility of exportation with drawback.

The exportation of ore of lead took place by way of Bohemia (5,298 cwts.), and Jœgerndorf, in Silesia (3,840 cwts.) That of calamin partly by way of Trieste (11,600 cwts.), to Holland, &c., partly by way of Galicia to Prussia.

Ores of cobalt and nickel were exported to England.

The increase in the export of refined iron and of steel is accounted for by the greater demand, these articles being employed in the production of arms, in ship and railroad building, and for various purposes of war.

Woollen goods of English production being cheaper than those of Austrian manufacture, the export of such like articles to Turkey was somewhat restricted.

The quantity of paper exported from Austria to the Zollverein, the Danubian Principalities, the Levant, and Italy (Sardinia, &c.), was less in 1866 than in the preceding year, partly from diminished demand, partly because paper can no longer be sent exempt from duty to the States belonging to the German Zollverein. Austrian wares of paper and pasteboard being much in favour abroad for their neatness and cheapness, their export to the Levant was very considerable last year.

DALMATIA.

IMPORTS.

Articles.		1866.		1865.	
		Imported.	Amount of Duty.	Imported.	Amount of Duty.
			Florins.		Florins.
Colonial products	Cwts. ..	11,880	34,136	14,261	42,093
Agricultural produce—					
Manufactured tobacco (for Government magazines) .	,, ..	4,306	..	2,299	..
Corn of all sorts, imported by sea	,, ..	156,134	15,613	126,816	12,682
Ditto, by land	,, ..	7,639	..	7,808	..
Légumes, imported by sea .	,, ..	6,714	671	9,536	954
Ditto, by land	,, ..	171	..	70	..
Rice	,, ..	17,778	4,444	22,864	5,716
Meal and flour	,, ..	7,709	3,084	7,607	3,043
Home produce	,, ..	81,272	16,254	87,827	17,565
Greens and fruit, fresh ..	,, ..	4,665	..	5,857	..
Ditto, preserved, dried, &c..	,, ..	3,381	4,229	2,503	2,459
Wood, for firing	100 cubic ft.	343	137	733	293
Timber	,, ..	4,287	1,705	2,930	1,172
Coals	Cwts. ..	70,821	..	31,399	..
Earths for technical purposes .	,, ..	5,790	..	9,435	..
Cattle and animal products—					
Fish	,, ..	2,145	1,640	2,423	2,450
Animals	Number ..	9,594	..	12,853	..
Meat of all kinds . ..	Cwts. ..	87	194	66	137
Cheese	,, ..	213	532	229	572
Honey and wax . ..	,, ..	138	207	263	375
Hides and skins, undressed .	,, ..	2,371	..	2,771	..
Articles of food, oils, and tallow	,, ..	18,950	19,485	20,172	19,844
Raw materials, yarns and textile manufactures, and clothes	,, ..	13,168	28,316	13,320	34,192
Metals, burnt earths, glass, &c.	,, ..	10,792	8,416	11,901	11,016
Manufactures not mentioned .	,, ..	51,588	11,504	43,692	14,767

The decrease in nearly all the imports during the first nine months of 1866 was partly owing to the interrupted communication by sea, in consequence of the war with Italy, partly to the bad grape and olive harvest in Dalmatia, which could not fail to show a prejudicial influence on the movements of the import trade of that province. From this same cause also the export of wine and olive-oil from Dalmatia was considerably restricted during the period in question.

EXPORTS.

Articles.		Exported.	
		1866.	1865.
Medicines and spices	Cwts.	9,992	8,033
Agricultural produce—			
Corn of all sorts	,,	17,137	996
Greens and fruit	,,	3,407	3,732
Timber and wood for firing	100 cubic ft.	2,843	4,082
Coals	Cwts.	37,689	22,052
Cattle and animal produce—			
Fish	,,	15,619	21,268
Animals	Number	1,275	4,894
Meat, fresh or salted	Cwts.	9,137	5,892
Cheese	,,	1,453	673
Honey and wax	,,	310	164
Hides and skins, undressed	,,	4,405	5,495
Articles of food, oil, and tallow	,,	204,754	355,680
Raw materials and textile fabrics	,,	5,366	3,705
Metal wares, burnt earths, &c.	,,	554	528
Other manufactures	,,	45,010	38,776
Ships, not exceeding 30 tons	Number	24	50
Rags and waste	,,	8,424	10,744

Amount of the Custom Duties collected during the first Nine Months of 1866.

Provinces.	Imports.				Exports.			
	Amount of Duty.		1866.		Amount of Duty.		1866.	
	1866.	1865.	Increase.	Decrease.	1866.	1865.	Increase.	Decrease.
	Florins.	Florins.	Florins.	Florins.	Florins.	Florins.	Florins.	Florins.
Lower Austria	1,924,844	2,267,910	..	343,066	38,063	36,210	1,853	..
Upper Austria	189,324	210,568	..	21,244	13,219	13,256	..	37
Salzburg	87,478	111,922	..	24,444	4,578	4,923	..	345
The Tyrol	286,834	374,470	..	87,636	8,737	17,109	..	8,372
Stiria	136,543	141,226	..	4,683	355	907	..	552
Carinthia	50,139	48,573	1,566	..	154	3	151	..
Carniola	43,625	44,964	..	1,339	55	91	..	36
The Littoral	448,834	448,490	344	..	16,811	35,036	..	18,225
Bohemia	1,649,606	2,229,992	..	580,386	20,465	28,201	..	7,736
Moravia	156,650	166,315	..	9,665	157	633	..	476
Silesia	86,325	141,073	..	54,748	3,706	7,852	..	4,146
East Galicia	162,111	201,552	..	39,441	241	2,164	..	1,923
West Galicia, with Cracow . ..	102,953	163,657	..	60,704	6,304	15,883	..	9,579
The Bukovina	75,490	248,476	..	172,986	55	19	36	..
The Lombardo-Venetian Kingdom ..	629.816	918,670	..	288,854	10,736	43,233	..	32,497
Hungary and the Wojwodina ..	774,336	857,125	..	82,789	20,530	18,645	1,885	..
Croatia	122,761	163,324	..	40,563	52,867	34,245	18,622	..
Transylvania	139,650	158,530	..	18,880	79	33	46	..
Total	7,067,319	8,896,837	..	1,829,518	197,112	258,443	..	61,331
Dalmatia	223,987	183,066	40,921	..	..	..	..	..

A branch of the Austrian administration in which it is to be hoped that a salutary change may soon be effected, is that of the collection of the Customs dues, which entail in this country an enormous and wholly disproportionate expenditure.

According to an official statement, published recently in the "Vienna Gazette," it would seem that on a Customs receipt of 14,022,066 florins, the cost of collection alone (Customs officials, &c.) amounted to 2,788,392 florins, being 19·88 per cent, or nearly a fifth of the total Customs revenue.

The "Vienna Gazette" openly admits the fault of this disproportionate expenditure, and going on to compare it with the cost of the Customs collection in Great Britain, shows that during the same period the cost of collection in England on a total receipt of 236,929,550 florins (or 23,692,955*l.*), amounted only to 7,332,080 florins (or 733,208*l.*), being equal to circa 3½ per cent.

It is true that the easier guard of the maritime coasts of Great Britain chiefly explain this vast difference; whilst also the main Customs receipts of England arise out of the duties levied on the few articles—sugar, tobacco, tea, wine, spirits, and corn.

The tobacco monopoly of Austria, inclusive of an area of 66,000 joch (or Austrian acres) devoted to the home cultivation of that plant, and with a produce of 560,000 cwt. of the dried-leaf, yielded to the Government in the year 1865, a total of circa 50,000,000 florins.

Considering, however, the enormous consumption of tobacco in these countries, even under the vexatious and expensive regulations of a State monopoly, it can hardly be doubted that a large increase of those receipts would accrue to the Government if the monopoly were done away with, and the far greater area of land devoted to the cultivation of tobacco which formerly took place, especially in Hungary.

The general increase of the railway traffic in Austria, of late years, may be briefly stated by the following figures, which refer however only to the year 1865, the general returns for 1866 not having yet been published, and much disturbance also having been created during the latter period throughout the railway communications in Austria, by the events of the late war.

On the other hand there was a diminution in the receipts during the same period for—

	Florins.
The Gratz-Köflach Line of	49,931
Reichenberg Pardubitz	169,465
Bohemian West Line	338,845
Total	558,241

The navigation returns of the port of Trieste show for the year 1866 a considerable increase in the traffic of that place against preceding years.

In the years 1853 and 1854, the total of ships inward bound reaching that port, amounted to:—

	Vessels.	Tonnage.
1853	12,535	820,572
1854	12,598	852,157
Whilst their numbers reached in 1866	11,396	980,763

Although we remark here a diminution in the actual number of vessels registered, the notable increase in their tonnage is the true criterion by which to judge of the more active traffic of the port.

Public Debt.

The actual state of the public debt of Austria, as shown in the report drawn up on the 30th of June last, by the Commission for the Control of the State Debt, and of which I inclose a copy, may be briefly stated by the following figures.

	Florins	kr.
Total of the National debt of Austria at the close of the first half of 1866	2,831,211,195	3
Or—		
Reimbursable—		
Bearing interest	720,787,485	46½
Not bearing interest	313,334,643	44
Non-reimbursable—		
Bearing interest	1,797,060,043	19
Not bearing interest	29,022	93
	2,831,211,195	3
Demanding the payment of an annual interest of..	125,473,744	23

The actual state of the public debt shows, as compared to that of December 31, 1865, an increase of 234,831,693 florins 36 kreutzers. But the report of the Commission does not extend beyond the 30th of June, 1866. To the above amount there will have to be further added the ruinous expenses of the late war, and the amount of the several loans and other financial operations undertaken during and since the month of July.

I inclose further detailed estimates of the revenues and expenditure of Austria for the year 1867.

State Balance Sheet for the Year 1867.—It is estimated that the total of the expenditure for the year 1867 will be 433,896,000 florins Austrian currency; whilst the revenue, raised from direct and indirect taxation, and from other sources of public income, is placed at 407,297,000 florins; leaving a deficit of 26,599,000 florins. To this, however, must be added liabilities of 51,034,000 florins still remaining from the service of the year 1866; and the total deficit for the current year will consequently amount to 77,633,000 florins. To cover this amount new financial operations will not be requisite, the Minister of Finance having still at his disposal funds, to the amount of 79,495,000 florins, from the produce of the various financial operations of the year 1866.

It must here be observed that, by the Imperial Patent Laws of the 5th May, 7th July, and 25th August, 1866, on which these operations are based, the Minister of Finance, in consequence of the war with Prussia and Italy, was empowered to issue State notes to so large an amount that the whole of the unfunded debt—the partial mortgage bonds on the Imperial Salt Mines included—rose to 400,000,000 florins.

Of these extraordinary resources a sum of 65,834,000 florins was, in conformity with the stipulations of the Financial Law for the year 1866, applied to the reduction of the National Debt; a sum of 4,500,000 florins was granted for the relief of certain districts in Hungary, in which the crops had been seriously injured by frost and other calamities; whilst the provinces of Bohemia, Moravia, and Lower Austria, which had most suffered from the war with Prussia, received 5,000,000 florins as indemnity. The speedy end of the Prusso-Austrian war, the prompt reductions in the army and navy, and the rapid

revival of commerce and trade, as a consequence of the retoration of peace, rendered it possible to the Treasury to dispose of its remaining resources.

Thus the financial aspects at the close of the fatal year 1866 were more favourable than might reasonably have been expected a few months before, when things were still under the direct impression of the late events.

Whilst the expenditure in 1866 amounted to 507,921,000 florins, it is estimated that the expenditure in 1867 will not exceed 433,896,000 florins, showing an economy of 74,025,000 florins.

The Civil List was (by special Order of the Emperor) reduced from 7,368,000 florins to 5,065,000 florins.

In the estimates for the Civil Administration there has been a reduction of 2,910,853 florins; among others the expenditure of the Ministry of State (section for the management of political affairs) was reduced from 17,812,200 florins to 17,405,000 florins; Ministry of Finance (management of finances), from 17,444,525 florins to 15,718,000 florins.

The expenditure of the Ministry of Commerce, on the contrary, was augmented from 13,425,079 to 15,778,000 florins. Such augmentation is partly owing to expenses connected with the Paris Exhibition (340,000 florins), to the outlay for the enlargement of the harbour of Trieste (1,125,000 florins), for the regulation of the navigable River Narenta, in Dalmatia (200,000 florins), &c.

The extraordinary expenditure will be greater in 1867 than it was in the preceding year, in consequence of the Government having to provide for no less than 5,000 supernumerary officers put on the half-pension list. The Government entertains the hope that the reforms about to be made in the organization of the Austrian army will cause no increase in the amount of the Military Budget.

The total revenue for the year 1866 was taken at the amount of 457,458,082 florins, whilst it has, for the current twelvemonth, been estimated at 407,297,000 florins, which would be a decrease of 50,161,082 florins.

The Minister of Finance accounts for this considerable decrease on the amount of revenue in 1867 by stating that the way in which, in previous years, the Estimates were drawn up did not correspond with the subsequent results of the administration. Further, he deemed it advisable to

omit in his estimates for the present year all the secondary items of revenue in which there have always been more or less important fluctuations.

Thus the principal branches of income taken into consideration, are the direct and indirect taxation, the produce of the State domains and forests, the post and telegraph offices.

From this year's Estimates, when compared with the Budget of 1866, it appears that there will be a diminution of 4,513,000 florins in the proceeds of direct taxation; of 9,100,000 florins in the produce of indirect taxation; of 1,930,000 florins in the receipts from the woods and forests; and of 1,030,000 florins in those from the post office.

The domains are expected to yield 1,066,000 florins more than they did in the previous year.

The principle items of the estimated expenditure and revenue of Austria for 1867 are shown in the following Tables, at par of exchange 10 florins O.W. to be counted to the 1*l.* sterling:—

EXPENDITURE.

	Ordinary.	Extraordinary.	Total.
	Fl. (A. C.)	Fl. (A. C.)	Fl. (A. C.)
Civil List	4,435,000	630,000	5,065,000
Cabinet—Chancery of the Emperor ..	62,000	..	62,000
Council of the Empire ("Reichsrath") ..	200,000	..	200,000
Council of State ("Staatsrath") ..	148,000	..	148,000
Council of Ministers	17,000	..	17,000
FOREIGN OFFICE.			
Central administration	428,000	10,000	438,000
Diplomatic expenses	986,000	82,000	1,068,000
Outlay for the Consulates	586,000	8,000	594,000
	2,000,000	100,000	2,100,000
MINISTRY OF STATE.			
Central management	565,000	..	565,000
Political administration—			
Press bureau, management of the Vienna Gazette and of the paper for the publication of the laws of the Empire	53,000	..	53,000
Superintendence-general of the Gendarmerie	36,000	..	36,000
Academy of Science	63,000	..	63,000
Geological Institution	39,000	3,000	42,000
Political administration in the Crown lands	8,632,000	218,000	8,850,000
Subsidies to Foundling hospitals ..	425,000	..	425,000
Engineering Boards	374,000	10,000	384,000
Highroads	4,593,000	377,000	4,970,000
Water-works	744,000	504,000	1,248,000
Gendarmerie	1,361,000	79,000	1,440,000

	Ordinary.	Extraordinary.	Total.
	Fl. (A. C.)	Fl. (A. C.)	Fl. (A. C.)
New buildings for the use of the Administrative authorities	..	..	..
Outlay for the official newspapers ..	320,000	..	320,000
Support of the fugitives from Montenegro, Bosnia, and the Herzegovina ..	..	35,000	35,000
Extirpation of brigandage ("malvivenza") in Dalmatia	..	20,000	20,000
General Disposition Fund	200,000	..	200,000
Other items	..	80.000	80,000
	17,405,000	1,426,000	18,831,000
Ecclesiastical Affairs..	1,564,000	164,000	1,728,000
Public Education	2,232,000	..	..
Other items	..	18,000	18,000
	3,796,000	567,000	4,363,000
Educational Council	30,000	..	30,000
MINISTRY OF POLICE.			
Central management..	141,000	5,000	146,000
State police	340,000	..	340,000
Public security	866,000	169,000	1,035,000
Police guard	523,000	71,000	594,000
Other items	..	69,000	69,000
	1,870,000	314,000	2,184,000
Hungarian Court Chancery	10,950,000	986,000	11,936,000
Transylvanian Court Chancery ..	2,837,000	163,000	3,000,000
Croato-Slavonian Court Chancery ..	1,460,000	140,000	1,600,000
MINISTRY OF FINANCES.			
Management of Finances—			
Central management	1,054,000	16,000	1,070,000
Provincial administration	4,230,000	49,000	4,279,000
State and Provincial Treasuries ..	624,000	..	624,000
District Treasuries	191,000	..	191,000
Finance guard	4,380,000	61,000	4,441,000
Tax offices	3,406,000	..	3,406,000
Finance procurations	411,000	11,000	422,000
Register of lands	1,040,000	..	1,040,000
Ground tax ("Provisorium") ..	153,000	..	153,000
Montanic academies	68,000	..	68,000
National Debt direction	24,000	..	24,000
	15,581,000	137,000	15,718,000
Subventions and Dotations (to provincial funds)—			
Salzburg	15,000	..	15,000
The Tyrol	70,000	..	70,000
Stiria (advanced)	..	142,000	142,000
Carinthia	60,000	..	60,000
Carniola..	8,000	..	8,000
Bohemia (advanced)	..	73,000	73,000
Silesia (a round sum of 8,000 fl. advanced)	2,000	8,000	10,000

	Ordinary.	Extraordinary.	Total.
	Fl. (A. C.)	Fl. (A. C.)	Fl. (A. C.)
Galicia (on account of the prevailing distress)	50,000	..	50,000
Subventions to Austrian Railway Companies and to the Trieste Lloyds ..	..	4,016,000	4,016,000
Subsidies to the fund for the emancipation of the soil	..	4,794,000	4,794,000
	205,000	9,033,000	9,238,000
General management of Treasuries ..	1,014,000	8,036,000	9,050,000
Pensions	12,000,000	..	12,000,000
Interest on the National Debt	120,812,000	..	120,812,000
Sinking fund	..	18,758,000	18,758,000
Charges of collection and administration of the Revenue—			
Direct taxation	39,000	377,000	416,000
Indirect taxation	46,759,000	346,000	47,105,000
State property (domains, forests, Government factories, &c.)	44,008,000	934,000	44,942,000
	90,806,000	1,657,000	92,463,000
	240,418,000	37,621,000	278,039,000
MINISTRY OF COMMERCE.			
Central management	254,000	539,000	793,000
Post Office	9,821,000	..	9,821,000
Telegraph Office	2,888,000	262,000	2,450,000
Other items	936,000	1,778,000	2,714,000
	13,199,000	2,579,000	15,778,000
MINISTRY OF JUSTICE.			
Central management	154,000	..	154,000
Supreme Court of Justice	300,000	13,000	313,000
Provincial administration of Justice ..	5,746,000	..	5,647,000
Other items	1,417,000	132,000	1,549,000
	7,617,000	145,000	7,762,000
BOARDS OF CONTROL.			
Supreme Board of Control	260,000	..	260,000
Central Commission for statistical matters	48,000	5,000	53,000
Other items	1,282,000	28,000	1,310,000
	1,590,000	33,000	1,623,000
WAR DEPARTMENT.			
Army	63,726,000	3,649,000	67,375,000
Military frontier	4,120,000	..	4,120,000
Other items	..	1,963,000	1,963,000
	67,846,000	5,612,000	73,458,000
Navy	6,970,000	730,000	7,700,000
	74,816,000	6,342,000	81,158,000
Grand Total	382,850,000	51,046,000	433,896,000

REVENUE.

	Ordinary.	Extraordinary.	Total.
	Fl. (A. C.)	Fl. (A. C.)	Fl. (A. C.)
Cabinet Chancery of the Emperor ..	..	6,000	6,000
Council of State	..	15,000	15,000
Council of Ministers	..	1,000	1,000
Foreign Office	200,000	29,000	229,000
Ministry of State	425,000	280,000	705,000
Ecclesiastical Affairs and Public Education	82,000	9,000	91,000
Educational Council	..	2,000	2,000
Ministry of Police	381,000	91,000	472,000
Hungarian Court Chancery	269,000	7,000	276,000
Transylvanian Court Chancery ..	85,000	20,000	105,000
Croato-Slavonian Court Chancery ..	45,000	6,000	51,000
Ministry of Finances—			
Management of Finances	107,000	390,000	497,000
General management of the Treasuries .	1,425,000	6,180,000	7,605,000
Direct Taxation—			
Land tax	51,873,000	3,213,000	55,086,000
Tax on buildings	18,109,000	2,259,000	20,368,000
Trade tax	4,958,000	826,000	5,784,000
Personal trade-tax	4,519,000	..	4,519,000
Income tax	15,322,000	3,958,000	19,280,000
Legacy tax	15,000	..	15,000
Other items	..	441,000	441,000
	94,796,000	10,697,000	105,493,000
Indirect Taxation—			
Excise of consumption	12,330,000	..	12,330,000
Excise on wine and must	5,350,000	..	5,350,000
Excise on beer	16,685,000	..	16,685,000
Duty on meat and cattle for slaughter ..	5,263,000	..	5,263,000
Duty on sugar	6,392,000	533,000	6,925,000
Excise on other articles of consumption	1,760,000	..	1,760,000
Other items	4,853,000	9,000	4,862,000
Customs Duty	11,140,000	26,000	11,166,000
Salt	35,061,000	..	35,061,000
Tobacco	50,984,000	27,000	51,011,000
Stamp duty	14,895,000	1,000	14,896,000
Dues on legal business	23,314,000	5,000	23,319,000
Lottery	17,980,000	7,000	17,987,000
Turnpike tolls	3,153,000	..	3,153,000
Receipts from Government marks on gold and silversmiths' wares ..	305,000	1,000	306,000
	207,705,000	609,000	208,314,000
Receipts from State domains, forests, &c.	13,843,000	15,000	13,858,000
Receipts from Government factories ..	1,237,000	11,000	1,248,000
Other items	35,998,000	10,018,000	46,016,000
	355,111,000	27,920,000	383,031,000
Ministry of Commerce—			
Post Office	11,210,000	106,000	11,316,000
Telegraph Office	2,110,000	52,000	2,162,000
Other items	449,000	35,000	484,000
	13,769,000	193,000	13,962,000

	Ordinary.	Extraordinary.	Total.
	Fl. (A. C.)	Fl. (A. C.)	Fl. (A. C.)
Ministry of Justice	66,000	223,000	289,000
Boards of Control	1,000	140,000	141,000
War Department—Army	7,846,000	..	7,846,000
Navy	75,000	..	75,000
	7,921,000	..	7,921,000
Grand Total	378,355,000	28,942,000	407,297,000

The extraordinary contribution to be levied for the year 1867 in addition to the existing ordinary taxes is—three-twelfths of the land tax, two-sixths of the tax on buildings in cities and towns, three-fourths of the tax on buildings in the country, two-fifths of the trade tax, and two-fifths of the income tax. The coupons of State bonds are subject to a tax of 7 per cent.

(Signed) A. G. G. BONAR.

Russia.

Report by Mr. Stuart, Her Majesty's Secretary of Embassy, on the Russian Budget for 1867.

St. Petersburgh, June 7, 1867.

The Budget of the Russian Empire for 1867, which for the first time includes that of the Kingdom of Poland, amounts, in the aggregate, to 443,850,171 silver roubles* (about 59,180,022*l.*), such being the estimated expenditure, and the deficiency which there would otherwise be in the receipts being made up by a sum of 15,206,294 roubles (2,027,505*l.*) derived from the Anglo-Dutch Loan of last year, and by a reserved fund of 4,150,000 roubles (553,333*l.*) found in the Polish Treasury. The sum of 25,473,277 roubles (3,396,437*l.*), which it is proposed to spend on the construction of railways, is to be derived from "Special Revenues," which are not indicated, but which may be realized out of the proceeds of the contemplated sale of the railway between St. Petersburgh and Moscow.

The portion of the Budget specially relating to Poland estimates the revenue of that kingdom at 16,456,827 roubles (2,194,243*l.*), and the expenditure at 20,119,010 roubles (2,682,534*l.*), exclusive of the receipts and expenses which are amalgamated with those of the different

* The value of the so-called silver rouble is constantly fluctuating. In making the present conversion into pounds sterling it has been taken at 32*d.* During the last few months it has been usually below, although it is now above, that point. The par value of the real metallic rouble is 38*d.*

Ministerial Departments of the Empire. The receipts of Poland which are so amalgamated, amount, according to the Report of the Minister of Finance, to 13,679,000 roubles (1,823,866*l.*), whereof 9,250,000 roubles (1,233,333*l.*), derived from drinks; 2,400,000 roubles (320,000*l.*) from salt; 1,230,000 roubles (164,000*l.*) from tobacco; 157,000 roubles (20,933*l.*) from beetroot sugar; and 610,000 roubles (81,333*l.*) from posts. The aggregate receipts for Poland would, therefore, amount to 32,135,000 roubles (4,018,000*l.*).

In comparing the General Budget with that of last year the Minister calculates upon an increase of 46,159,000 roubles (6,154,533*l.*) in the receipts, and of 39,782,000 roubles (5,304,266*l*) in the expenditure of the present year.

The so-called "extraordinary resources" of both years are excluded from this calculation, as far as the receipts are concerned, and a sum of 3,150,000 roubles (420,000*l.*) has been deducted from the miscellaneous receipts (Recettes Diverses) as inserted in last year's Budget, on the ground of that having been the residue of certain Polish revenues which are no longer inserted as a separate item.

Revenue.—Taking the respective sources of revenue in the order in which they are inscribed in the Budget, the direct taxes are this year expected to produce 51,865,131 roubles (6,915,350*l.*), an increase of 7,265,490 roubles (968,733*l.*) over those of last year; and the Excise and Customs duties and stamps 187,490,608 roubles (22,998,747*l.*), an increase of 5,785,748 roubles (771,433*l.*) over those of last year. The increase in the former is to be raised by an additional capitation tax of 50 copecks, to be imposed from the 1st of July next, and expected to realise 5,500,000 roubles (733,333*l.*), and by additional taxes upon the Crown peasants to the amount of 2,006,000 roubles (267,466*l.*). On the other hand, there is a slight diminution in connection with the existing capitation tax, owing to a change in the mode of assessment.

The estimated increase in Excise and Custom duties is made up as follows:—231,624 roubles (30,882*l.*) on drinks, an Excise duty having been imposed upon the manufacture of beer and mead in the Baltic and Western Provinces; 1,547,307 roubles (206,307*l.*) on salt; 1,448,000 roubles (193,066*l.*) on tobacco; 410,500 roubles (54,733*l.*) on beetroot sugar; 1,874,000 roubles (249,866*l.*) on Cus-

toms; and 273,756 roubles (36,367*l.*) on stamps and sundries.

Had the receipts from Poland not been included in these returns, there would, according to the Minister's report, be a decrease, as compared with last year, of 6,050,000 roubles (806,666*l.*) in the Excise duties on strong drinks (caused principally by the diminished consumption), and of 1,582,000 roubles (210,933*l.*) on salt, owing to the greater part of the Crown stores having been sold.

The proceeds under the head of Royalties ("Droits Régaliens") from mines, coinage, posts and telegraphs, are estimated this year at 17,646,738 roubles (2,352,898*l.*), an increase of 2,191,573 roubles (292,209*l.*) over those of last year.

The aggregate expected from the State domains amounts to 62,940,289 roubles (8,392,038*l.*), an increase of 782,618*l.* over the corresponding estimate for 1866, which amounted to 57,070,649 roubles (7,609,420*l.*)

The Miscellaneous Receipts ("Recettes Diverses") are expected to produce 46,754,647 roubles, (6,233,953*l.*), an increase of 2,747,271 roubles (366,30[illegible]*l.*), over those of last year, exclusive of the sum of 3,150,000 roubles (420,000*l.*), deducted from the latter as above-mentioned. Amongst these receipts, however, there is a decrease this year of 2,014,650 roubles (268,620*l.*), on the item of Recruiting Exemptions.

In Table No. 2 ("Recettes"), there are apparently two misprints with respect to the Transcaucasian Revenues, these being put down for this year, at 3,693,122 roubles, instead of 3,938,292 roubles (525,105*l.*), as in Table No. 1, and for last year at 3,453,642 roubles, instead of at 3,693,122 roubles (492,419*l.*), without any allowance being made for the difference in the aggregate additions, which are nevertheless correct in both Tables.

The extraordinary resources required to make up the deficit, amounting to 15,206,294 roubles (2,027,505*l.*), are to be derived exclusively from the Anglo-Dutch Loan, as aforesaid. Last year a sum of 12,583,931 roubles (1,677,857*l.*), was taken from the same source, and a further sum of 9,000,000 roubles (1,200,000*l.*) was issued in Treasury bills or bonds.

Under the next heading of Special Receipts ("Recettes d'Ordre"), which are estimated as amounting in the aggre-

gate to 16,078,063 roubles (2,143,741*l.*), there is an increase of 3,205,752 roubles (427,433*l.*), over those of last year.

The remaining receipts are the Special Resources for the construction of railways, which have been already alluded to as to be derived from the sale of the St. Petersburgh and Moscow railway.

The cost of collecting the Ordinary Revenue ("Recettes Ordinaires de l'Etat") appears to amount to about 12 per cent., exclusive of posts and railways, of which the united expenses very nearly absorb the receipts, the cost would be under 7 per cent.

Expenditure.—The estimated expenditure for this year, under the head of "Ordinary Expenses," amounts to 398,298,830 roubles (53,106,510*l.*), an increase of 31,034,082 roubles (4,137,877*l.*), over that of last year. The Minister reports that, out of this increase, 23,142,000 roubles (3,085,600*l.*), appear in consequence of the amalgamation of the Polish budget, and that the real increase in the Ordinary Expenses amounts to only 7,891,000 roubles (1,052,133*l.*), of which 5,259,470 roubles (701,262*l.*) are required for the increased charges on the Public Debt, the total charge on this head amounting to 73,846,154 roubles (9,846,153*l.*), whereof 32,931,937 roubles (4,390,925*l.*) for interest and sinking fund of the foreign loans.

As compared with last year, the estimates show a slight increase of expenditure for the Superior State Departments ("Institutions Supérieures de l'Etat"), including the Emperor's private Chancery and the Chanceries for Poland and the Caucasus. There is also a slight increase in the expenses connected with the Holy Synod (Church and clergy), and in those of the Ministry of the Emperor's Household, the palaces and gardens of Warsaw being included in the latter.

In the expenses of the Ministry for Foreign Affairs there is scarcely any difference, such as there is being a decrease.

The principal increase is in the estimates of the War Department, amounting to 3,857,970 roubles (514,396*l.*); the aggregate expenditure for that Department being estimated at 120,450,333 roubles (16,060,044*l.*), as compared with 116,592,363 roubles (15,545,648*l.*) for 1866. This increase would amount to 13,947,000 roubles (1,859,600*l.*

on some items, were it not partly balanced by reductions amounting to 10,089,000 roubles (1,345,200*l.*) on others. For instance, while there is an increase amounting to 3,016,384 roubles (402,184*l.*) on equipments, of 5,091,167 roubles (678,822*l.*) on artillery, powder, projectiles, and gunnery experiments, and of 5,151,657 roubles (686,887*l.*) on the construction and repairs of buildings, fortifications, and cantonments of troops, there is a reduction of 4,783,724 roubles (637,830*l.*) on provisions, besides smaller reductions on forage, pay, powder magazines, &c. A sum of 2,635,125 roubles (351,350*l.*) is to be devoted to the purchase and conversion of rifles.

The estimates of the Marine Department show a decrease of 4,993,302 roubles (665,773*l.*) as compared with those of 1866, the reductions being principally upon naval constructions, pay of sailors, provisions, internal and foreign navigation, transport, pay of workmen, &c., whilst a fresh charge of 1,781,894 roubles (237,586*l.*) appears for the reorganization and maintenance of establishments, light-houses, &c., in the Caspian and Black Seas. The total allowance for the Department in 1866 was 21,636,417 roubles (2,884,855*l.*); this year it is 16,643,115 roubles (2,219,082*l.*).

In the Finance Department there is a slight increase, owing, according to the Ministerial Report, to the expenditure on the financial institutions of Poland being this year included.

In the Ministry of the State Domains there is a decrease. In the respective Departments of the Interior and of Public Instruction there is a slight increase.

In the allowance for the Ministry of Public Works ("Voies de Communication"), including roads, railways, canals, &c., there is an increase of 3,614,709 roubles (481,961*l.*).

The expenses of the Ministry of Posts and Telegraphs are estimated at slightly less this year than they were last year.

Owing to the recent reforms in the administration of justice, there is an increase of 583,605 roubles (77,814*l.*) in the estimated expenditure of that Department.

The sum of 25,473,277 roubles (3,396,437*l.*), to be laid out in the construction of railways, is greater by 5,542,333 roubles (738,977*l.*) than that devoted to the same purpose last year.

Besides the five Tables taken from the "Journal de St. Pétersbourg," a sixth is annexed, containing a summary of this year's and last year's Budgets converted into pounds sterling.

(Signed) W. STUART.

Résumé du Budget des Recettes et Dépenses de l'Etat pour l'Exercice 1867.

RECETTES DE L'ETAT.

I. *Recettes Ordinaires de l'Etat.*	Recettes Brutes évaluées pour 1867. Roubles c.	Frais de Perception. Roubles c.	Produit Net des Recettes évaluées pour 1867. Roubles c.
1. Impôts—			
a. Impôts directs (impôts et patentes de commerce	51,865,131 89	269,710 0	51,595,421 89
b. Impôts indirects (droits et accises)	187,490,608 83¾	16,095,707 18¼	171,394,901 65
2. Droits régaliens	17,646,738 10½	15,629,990 61½	2,016,747 49
3. Biens de l'Etat	62,940,289 59¾	12,883,054 35¼	50,057,235 24½
4. Recettes diverses...	46,754,647 17	737,901 44¼	46,016,745 72¾
5. Revenus du Royaume de Pologne non compris dans les Budgets des Ministères de l'Empire	16,456,827 90¾	1,145,453 25¼	15,311,374 65½
6. Revenus du Transcaucase	3,938,292 25¼	... ...	3,938,292 25¼
Total des Recettes Ordinaires de l'Etat.	387,092,535 76	46,761,816 85	340,330,718 91
II.			
7. Ressources Extraordinaires sur l'Emprunt Anglo-Hollandais de 1866 ...	15,206,294 25¾	... ...	15,206,294 25¾
III.			
8. Recettes d'Ordre	16,078,063 58	... ...	16,078,063 58
Total	418,376,893 59¾	46,761,816 85	371,615,076 74¾
IV.			
9. Ressources Spéciales assignées pour la construction des chemins de fer ...	25,473,277 43	... ...	25,473,277 43
Total Général	443,850,171 2¾	46,761,816 85	397,088,354 17¾

DEPENSES DE L'ETAT.

I. *Dépenses Ordinaires.*	Dépenses d'Administration Générale. Roubles c.	Frais de Perception des Recettes. Roubles c.	Total. Roubles c.
1. Dette publique	73,846,154 96½	... ...	73,846,154 96½
2. Institutions Supérieures de l'Etat ...	1,658,273 44¼	33,025 0	1,691,298 44¼
3. Ressort du Saint Synode	6,774,352 96	... ...	6,774,352 96
4. Ministère de la Maison de l'Empereur	8,919,741 49½	... ...	8,919,741 49½
5. „ des Affaires Etrangères ...	2,219,233 62½	... ...	2,219,233 62½
6. „ de la Guerre	120,338,377 85½	111,955 79¼	120,450,333 64¾
7. „ de la Marine	16,643,115 7	... ...	16,643,115 7
8. „ des Finances	45,338,361 78	20,192,542 43¼	65,530,904 21¼
9. „ des Domaines de l'Empire ...	5,650,662 27	1,322,611 97	6,973,274 24
10. „ de l'Intérieure	15,717,496 51½	... ...	15,717,496 51½
11. „ de l'Instruction Publique ...	7,143,879 13¾	111,935 63	7,255,814 76¾
12. „ des Voies de Communication	11,923,794 14¼	10,479,237 91¾	22,403,032 6
13. „ des Postes et Télégraphes ...	1,021,639 9½	13,242,157 62½	14,263,796 72
14. „ de la Justice	8,192,786 98½	122,897 23	8,315,684 21¾
15. Contrôle de l'Empire	1,716,951 93¾	... ...	1,716,951 93¾
16. Direction Générale des Haras de l'Empire	568,084 34¾	... ...	568,084 34¾
17. Dépenses du Royaume de Pologne non comprises dans les Budgets des Ministères de l'Empire	18,973,557 4¾	1,145,453 25¼	20,119,010 30
18. Dépenses du Transcaucase—			
a. Imputables sur les Revenus de la contrée	3,938,292 25¼	... ...	3,938,292 25¼
b. Sur les fonds du Trésor	952,258 24¾	... ...	952,258 24¾
Total des Dépenses Ordinaires de l'Etat	351,537,013 16¾	46,761,816 85	398,298,830 1¾
II.			
19. Non Valeurs sur les Recettes ...	4,000,000 0	... ...	4,000,000 0
III.			
20. Dépenses d'Ordre	16,078,063 58	... ...	16,078,063 58
Total	371,615,076 74¾	46,761,816 85	418,376,893 59¾
IV.			
21. Dépenses Temporaires Extraordinaires pour construction de chemins de fer, couvertes par des ressources extraordinaires spéciales	25,473,277 43	... ...	25,473,277 43
Total Général	397,088,354 17¾	46,761,816 85	443,850,171 2¾

Budget des Recettes et Dépenses de l'Etat pour l'Exercice 1867.

Sanctionné par Sa Majesté l'Empereur le 29 Mars, 1867.

RECETTES.

I. Revenus Ordinaires de l'Etat.	Recettes Brutes d'après le Budget de 1866.	Recettes Brutes évalués pour 1867.	Frais de Perception.	Produit Net des Recettes évaluées pour 1867.
	Roubles c.	Roubles c.	Roubles c.	Roubles c.
a. Impots.				
Impôts Directes.				
1. Impôts	34,504,141 42	41,865,131 89	...	41,865,131 89
2. Patentes de commerce...	10,095,500 0	10,000,000 0	269,710 0	9,730,290 0
Impôts Indirectes.				
1. Sur les articles de consommation.				
(Droits et Accises).				
3. Boissons	124,821,692 0	125,053,316 10	...	...
4. Sels	10,425,243 0	11,792,550 50	...	...
5. Tabacs	5,705,400 0	7,153,400 0	...	...
6. Sucres de betteraves	668,500 0	1,079,000 0	...	...
	141,620,835 0	145,258,266 60	11,461,100 23¾	133,797,166 36½
7. Douanes	27,651,393 0	29,525,954 0	4,322,716 97½	25,203,237 2½
2. Droits.				
8. Timbre	5,536,500 0	5,528,800 0	202,721 16½	5,526,078 83½
9. Homologation et enregistrement d'actes de mutation de propriétés et autres	2,438,100 0	2,362,100 0	...	2,362,100 0
10. Divers	4,458,032 21	4,815,488 23¾*	109,168 81	4,706,319 42¾
Total des impôts	226,304,501 63	239,355,740 72¾	16,365,417 18¾	222,990,323 54

* Dans ce chiffre sont compris :—

	Roubles c.
Les passe-ports, pour	1,786,600 0
Les feuilles de postes	301,700 0
Les droits de navigation	595,396 0
Les promotions	680,700 0
Les droits de chaussées	637,797 0
Les droits pour desseins de plans, les amendes et autres droits destinés à former un fonds de pensions	813,295 23¾
	4,815,488 23¾

	Recettes Brutes d'après le Budget de 1866.	Recettes Brutes évaluées pour 1867.	Frais de Perception.	Produit Net des Recettes évaluées pour 1867.
b. DROITS REGALIENS.				
11. Mines	Roubles c. 2,676,061 95¼	Roubles c. 424,642 80*	Roubles c. ...	Roubles c. ...
12. Monnayage	2,861,329 0	6,978,312 74	...	...
13. Postes	5,537,390 95¼	7,402,955 54	2,387,832 99	5,015,122 55
14. Télégraphes	7,727,775 0	7,893,582 56½	11,247,028 22¾†	3,353,445 66
Total des droits régaliens	2,190,000 0	2,350,200 0	1,995,129 40	1,661,676 89
	15,455,165 95¼	17,646,738 10½	15,629,990 61½	355,070 60
c. BIENS DE L'ETAT.				2,016,747 49
15. Propriétés peuplées de paysans	907,059 22½	1,032,078 50¾	...	1,032,078 50¾
16. Redevances foncières et autres des paysans domaniaux et de ceux établis sur les terres de la Couronne	33,454,581 44½	36,062,186 89	...	36,062,186 89
17. Domaines affermés	3,391,256 36½	3,045,536 13¾	...	3,015,536 13¾
18. Ventes de terrains et domains de l'Etat, de quittances de recrutement, &c.	1,959,905 29½	2,811,177 98½	...	2,811,177 98½
19. Forêts	3,714,179 32	4,002,954 38	...	2,680,342 41
20. Mines et usines	2,602,595 29½	1,214,245 10¼‡	1,322,611 97	6,243 13¾
21. Chemins de fer	10,907,711 0	14,644,992 0	1,208,001 96½	4,292,551 58¾
22. Revenus des immeubles et intérêts des capitaux du fonds d'éducation	183,361 86¾	127,118 60	10,352,440 41¾	127,118 60
Total des biens de l'Etat	57,070,649 81	62,940,289 59¾	12,883,054 35¼	50,057,238 24½
d. RECETTES DIVERSES.				
23. Etablissements agronomiques et technologiques (imprimeries du Senat et du Ministère de l'Instruction Publique) livres, journaux, et revues publiés par le Gouvernement	800,890 81	864,383 63½	296,922 60	567,461 3½
24. Vente de produits économiques	816,401 74¾	753,435 81½	110,099 86¼	643,335 95¼
25. Sommes pour frais d'équipement et autres des recrues, payées par ceux qui les livrent pour les recrutements de 1867 et à venir	2,470,000 0	2,280,446 0	...	2,280,446 0
26. Produit des exemptions du recrutement	2,416,440 16½	401,791 0	...	401,791 0
27. Droits imposés aux Kirghizes de la horde intérieure et de la ci-devant Petite horde	467,276 83½	390,449 83½	...	390,449 83½
28. Pensions payées par les élèves non boursiers des établissements publics d'éducation	142,587 94¾	134,759 87¼	...	734,759 87¼
29. Recouvrement de prêts	4,493,246 47	5,918,630 41	...	5,918,630 41
30. Poursuites et amendes	644,224 61½	692,264 82¾	...	692,264 82¾
31. Subventions au trésor sur des ressources étrangères à ses revenus (redevances territoriales, revenus urbains et autres sources)	24,299,240 74½	23,121,206 35¾	...	23,121,206 35¾
32. Recettes diverses accidentelles	6,206,799 37½	10,761,149 41¾	330,878 98	10,430,270 43¾
33. Recettes temporaires de douanes ayant une destination spéciale	1,250,268 0	1,456,130 0	...	1,456,130 0
Total des recettes diverses	44,007,376 70½§	46,754,617 17	737,901 44½	46,016,745 72¾

* La diminution des impôts sur les mines provient du transfert à l'article suivant (Monnayage) du droit sur l'or exploité.

† Dans cette somme de 11,247,028 roubles 22¾ copecks, figurent comme frais de perception des postes, 7,568,800 roubles 57½ copecks fournis à titre de subvention par les redevances territoriales pour l'entretien des relais de chevaux de poste, ce qui occasionne dans le produit des postes le deficit (de 3,353,445 roubles 66 copecks); si cette somme de 7,568,800 roubles 57½ copecks était ajoutée aux 7,893,582 roubles 56½ copecks, les recettes des postes offriraient un surplus de 4,215,354 roubles 91½ copecks sur les dépenses.

‡ Le revenu des mines et usines a diminué par suite de l'élimination des budgets de sommes qui représentaient non des fonds en caisse mais seulement la valuer des métaux exploités.

§ Cette somme est de 3,150,000 moindre que l'évaluation du Budget de 1866, cette différence formant le montant des reliquats des revenus du Royaume de Pologne, lesquels, pour 1867, ne sont pas comptés séparément, les revenus et les dépenses du Royaume se confondant avec ceux de l'Empire.

	Recettes Brutes d'après le Budget de 1860.	Recettes Brutes évaluées pour 1867.	Frais de Perception.	Produit Net des Recettes évaluées pour 1867.
	Roubles c.	Roubles c.	Roubles c.	Roubles c.
34. Revenus du Royaume de Pologne non compris dans les Budgets des Ministères de l'Empire ...	...	16,456,827 90¾*	1,145,453 25½	15,311,374 65½
35. Revenus du Transcaucase, laissés complétement à la disposition du lieutenant de l'Empereur dans cette contrée	3,453,642 38½	3,693,122 80½	...	3,693,122 80½
Total des revenus ordinaires de l'Etat	346,530,816 90¼	387,092,535 76	46,761,816 85	340,330,718 91
II.				
36. Ressources Extraordinaires...	21,583,931 57¼	15,206,294 25¾†	...	15,206,294 25¾
III.				
Recettes d'Ordre.				
37. Volumes du corps des lois expédiés aux tribunaux, administrations, et autorités, par l'imprimerie de la IIe section de la chancellerie particulière de l'Empereur et travaux de cette imprimerie pour les grands corps de l'Etat	131,735 0	126,865 0	...	126,865 0
38. Dividendes afférents aux actions de l'établissement d'eaux minerales à St. Petersbourg	4,269 82	3,000 0	...	3,000 0
39. Métaux bruts et ouvrés, travaillés dans les mines et usines de l'Etat pour être livrés gratuitement aux Ministères de la Guerre et de la Marine	2,262,312 81	2,089,401 25¾	...	2,089,401 25¾
40. Vente du papier timbré établi pour les actes de médecine légale et de police médicale	300,000 0	300,000 0	...	300,000 0
41. Revenue de l'expédition de fabrication des papiers d'Etat, applicables, à ses dépenses	556,474 65	607,733 84	...	607,733 84
42. Vivres, fourrages et autre matériel vendus à d'autres administrations et compensations de diverses autres dépenses faites par certaines administrations pour comte d'autres	1,148,718 96¾	1,076,472 60¼	...	1,076,472 60¼
43. Remboursements par les propriétaires de dépenses d'arpentage	262,000 0	250,000 0	...	250,000 0
44. Remboursements divers	7,706,800 0	8,124,590 88	...	8,124,590 88
45. Reliquats de budgets clos	500,000 0	3,500,000 0	...	3,500,000 0
Total des recettes d'ordre	12,872,311 24¾	16,078,063 58	...	16,078,063 58
Total	380,987,059 67	418,376,893 59¾	46,761,816 85	371,615,076 74¾
IV.				
46. Ressources Speciales affectées à la construction des chemins de fer	19,930,944 67	25,473,277 43	...	25,473,277 43
Total General	400,918,004 39¼	443,850,171 2¾	46,761,816 85‡	397,088,354 17¾

* Dans cette somme figurent:—

a. Les impôts pour	5,969,665 42
b. Les revenus des biens de l'Etat	4,498,908 42
c. Les recettes diverses	1,838,254 6¾
d. Les reliquats de divers fonds	4,150,000 0
	16,456,827 90¾

† Provenant de l'emprunt Anglo-Hollandais du 1866.

‡ Dans cette somme ne sont pas compris comme frais de perception 538,348 roubles 62½ copecks, en raison de l'impossibilité de les répartir entre les chapitres de recettes.

Budget des Recettes et Dépenses de l'Etat pour l'Exercise 1867.

Sanctionné par Sa Majesté l'Empereur, le 29 Mars, 1867.

DEPENSES.

(A).—Depenses Ordinaires.	Dépenses. Permanentes.	Dépenses. Temporaires et Extraordinaires.	Total.	Allocations de l'Exercice 1866.
	R. c.	R. c.	R. c.	R. c.
1. Service de la Dette Publique.				
Intérêts et Amortissement de la Dette.				
1. Dettes extérieures à terme	...	13,548,307 87	13,548,307 87	14,318,543 16
2. Dettes extérieurs perpétuelles	...	19,383,629 23	19,383,629 23	19,384,722 57
Dettes Intérieurs à terme.				
3. *a.* A la Banque de l'Etat pour la dette du Trésor	...	1,483,855 73	1,483,855 73	2,520,319 83
4. *b.* A la Banque de l'Etat pour les dettes de diverses institutions et autorités, payables par le Trésor et remboursables sur diverses ressources	...	335,048 69	335,048 69	340,598 54
5. *c.* A diverses administrations	...	412,210 31¼	412,210 31¼	423,315 91¼
6. *d.* Pour les obligations de la Banque de l'Etat (métalliques)	...	3,000,000 0	3,000,000 0	3,000,000 0
7. *e.* Pour les billets de la Banque de l'Etat à 5 pour cent émis pour renforcer son encaisse ...	...	550,000 0	550,000 0	550,000 0
8. *f.* Pour les bons du Trésor	...	9,331,200 0	9,331,200 0	8,942,400 0
9. *g.* Pour les emprunts à 5 pour cent avec primes	...	15,784,750 0	15,784,750 0	9,137,750 0
Dettes Intérieures perpétuelles.				
10. *a.* Ordinaires et inaliénables.	...	3,793,904 72	3,793,904 72	3,793,869 52
11. *b.* Consolidés à 4 pour cent	...	6,223,248 41	6,223,248 41	6,175,164 87
Total du Service de la Dette Publique	...	73,846,154 96¼	73,846,154 96¼	68,586,684 40¼
2. Institutions Supérieure de l'Etat.				
Dépenses d'Administration Générale.				
12. Conseil et Chancellerie de l'Empire	604,344 62¼	10,212 0	614,556 62¼	539,688 65¼
13. Chancellerie du Comité des Ministres	55,847 68	1,188 0	57,035 68	46,298 38
Chancellerie particulière de l'Empereur.				
14. *a.* Ire section	21,967 0	63,359 69	85,326 69	88,485 89
15. *b.* IIe section et son imprimerie	135,123 0	61,416 31	196,539 31	207,010 89
16. *c.* IIIe section	218,602 86	8,411 52	227,014 38	118,158 38
17. *d.* Pour les affaires du Royaume de Pologne	219,450 0	10,000 0	229,450 0	...
18. Chancellerie du Comité pour les affaires du Royaume de Pologne	11,400 0	...	11,400 0	...

Chancellerie du Comité du Caucase.				
19. Entretien de la Chancellerie	23,686 93	980 0	24,666 93	25,547 6
20. Entretien des Boursiers du Caucase	34,454 40	12,853 56	47,307 96	55,123 28
Commission des Pétitions et Chancellerie du Secrétaire d'Etat chargé de recevoir celles Adressées à Sa Majesté l'Empereur.				
21. Entretien de la Commission et de la Chancellerie	82,075 87	...	82,075 87	83,576 29
22. Secours aux indigents et éducation d'enfants	74,500 0	8,400 0	82,900 0	35,800 0
Frais de Perception.	1,481,452 36½	176,821 8	1,658,273 44½	1,199,688 82½
23. Imprimerie de la IIe section de la Chancellerie particulière de l'Empereur	33,025 0	...	33,025 0	31,336 0
Total des Institutions supérieurs de l'Etat	1,514,477 36½	176,821 8	1,691,298 44½	1,231,024 82½
3. *Saint Synode.*				
Dépenses d'Administration Générale.				
24. Administration centrale	193,511 27	4,485 70	197,996 97	193,882 40
25 Chapitres des cathédrales, consistoires et régences ecclésiastiques, maisons archiépiscopales et évêques-vicaires	696,447 83½	24,947 70	721,395 53½	701,183 14½
26. Laures et monastères	438,781 42½	13,748 64½	452,530 7	470,545 64
27. Clergé des villes et des campagnes	4,009,048 84	800,350 0	4,809,398 84	4,409,862 42½
28. Subvention pour augmenter les ressources des établissements d'éducation du clergé	300,000 0	30,455 71½	330,455 71½	...
29. Entretien des édifices synodaux, frais de constructions et menues dépenses diverses.	128,262 45	134,313 38	262,575 83	304,290 56
Total du Saint Synode	5,766,051 82	1,008,301 14	6,774,352 96	6,079,764 17
4. *Ministère de la Maison de l'Empereur.*				
30. Dotation de la Famille Impériale, entretien de la Cour Impériale, de la maison de Mgr. le Grand-Duc héritier, du Ministère de la Maison de l'Empereur avec toutes les branches qui en dépendent, ainsi que les palais, le château, les jardins, et les parcs de Varsovie	6,523,359 77½	2,396,381 72½	8,919,741 49½	7,717,419 40½
5. *Ministère des Affaires Etrangères.*				
Dépenses d'Administration Générales.				
31. Administration centrale et entretien de fonctionnaires Diplomatiques près de certains Gouverneurs-Généraux	320,140 92	34,927 21	355,068 13	357,104 23
32. Ambassades et Légations	788,323 61	15,991 53	804,315 14	861,010 99
33. Consulats et Agences Consulaires	335,762 65	8,596 10	344,358 75	338,091 51
34. Dépenses extraordinaires à l'étranger	564,364 57	8,410 0	372,774 57	522,891 52
35. Dépenses diverses	130,531 26½	12,185 77	142,717 3½	143,017 43½
Total du Ministère des Affaires Etrangères	2,139,123 1½	80,110 61	2,219,233 62½	2,222,115 68½
6. *Ministère de la Guerre.*				
Dépenses d'Administration Générale.				
36. Administration centrale	1,600,698 92	256,170 19	1,856,869 11	1,837,165 69½
37. Administrations locales	3,378,743 85⅝	157,854 71	3,536,598 56⅝	3,595,415 74½
38. Récompenses et secours	1,078,133 17	1,000 0	1,079,133 17	1,094,364 88½
39. Parties technique et pédagogique	4,018,761 19½	425,681 40½	4,444,442 59½	4,354,966 60½

	Dépenses.		Total.	Allocations de l'Exercice 1866.
	Permanentes.	Temporaires. et Extraordinaires.		
	R. c.	R. c.	R. c.	R. c.
40. Service de santé	1,138,656 35	21,179 72	1,159,836 7	1,085,749 17
41. Retenues pour compte de la caisse éméritale	1,608,632 22	...	1,608,632 22	1,663,214 78
42. Solde	22,462,639 58½	635,419 33⅜	23,098,058 92	23,493,160 18¾
43. Casernement	1,221,521 35⅜	97,599 19½	1,319,120 55	1,064,688 92¼
44. Vivres	26,632,426 33¾	755,208 92¾	27,387,635 26½	32,171,359 24¼
45. Fourrages	10,435,526 97½	157,060 90½	10,592,587 88	12,257,809 99¾
46. Equipement	14,389,005 2	916,094 64½	15,305,099 66½	12,288,715 20
47. Lazareths	206,052 5½	...	206,052 5½	221,209 51¾
48. Remonte des chevaux de troupes, d'officiers, et de trait	703,574 8½	...	703,574 8½	596,737 18
49. Entretien du matériel de l'artillerie des troupes	648,681 78¼	945 0	649,626 78¼	586,859 91½
50. Entretien du matériel du génie	45,853 92	446 81¼	46,300 73¼	748,615 71½
51. Frais de bureaux des troupes	297,968 65½	1,800 0	299,768 65½	287,851 89¼
52. Transports des troupes	900,000 0	...	900,000 0	900,000 0
53. Préparation du matériel et des pièces d'artillerie, de la poudre, des projectiles et expériences d'artillerie ...	3,946,769 93½	4,429,726 0	8,376,495 93½	3,285,398 98
54. Artillerie de place	113,401 62¼	6,280 0	119,681 62¼	47,845 54¼
55. Arsenaux, poudrières et manufactures d'armes	154,442 40½	7,588 16¼	162,030 56¾	193,576 18½
56. Construction et entretien des édifices et fortifications et cantonnement des troupes	7,838,835 85¾	4,463,925 30½	12,302,761 16¼	7,151,104 85¾
57. Levées topographiques	37,185 86	110,125 71	147,311 57	155,571 73½
58. Frais de voyages de fonctionnaires, d'envois d'estaffettes, dépenses extraordinaires et diverses	4,618,075 74¾	415,392 28¼	5,033,468 3	5,491,036 28
	107,475,586 90¾	12,359,498 30½	120,335,085 21¼	113,867,347 46¼
(Frais de Perception.)				
59. Administration des immeubles appartenant à l'artillerie et menues dépenses	5,127 15¼	21 42	5,148 57½	3,469 60¾
60. Fabrication de la poudre pour la vente	110,099 86¼	...	110,099 86¼	124,574 28½
	115,227 1½	21 42	115,248 43½	128,043 88¾
Total du Ministère de la Guerre	107,590,813 92¼	12,359,519 72½	120,450,333 64¾	113,995,391 35*
7. Ministère de la Marine.				
Dépenses d'Administration Générale.				
61. Administrations centrale et des ports	886,471 49	15,208 71	901,680 20	1,612,659 75
62. Récompenses et secours	195,084 0	1,390 0	196,474 0	121,474 0
63. Partie pédagogique	283,928 90	40,935 28	324,864 18	380,524 71
64. Service de santé	386,077 12	26,450 74	412,527 86	521,560 91

* Le Budget de 1866 portait cette somme à 116,592,363 roubles 22⅜ copecks, dont 2,445,739 roubles 97½ copecks alloués spécialement pour les dépenses de l'artillerie et du génie de l'armée du Caucase et de la circonscription de l'ouest sont répartis dans le présent Budget dans ses divers chapitres sans avoir été inscrits dans la colonne des allocations pour 1866; et 151,231 roubles 90½ copecks qui formaient le chiffre des dépenses de la province du Térek dans la contrée du Caucase, ont été transférés au Budget de l'Administration Civile de cette contrée.

65. Solde des marins ...	1,265,946 26	91,214 56	1,360,160 82	1,936,805 45
66. Vivres ...	704,904 49	...	704,904 49	910,749 98
67. Equipement ...	578,145 26	...	578,145 26	764,844 28
68. Navigation intérieure ...	1,289,538 0	...	1,289,538 0	2,312,957 18
69. Navigation à étranger ...	893,240 5	...	893,240 5	1,441,559 97
70. Hydrographie ...	97,483 0	...	97,483 0	172,833 36
71. Artillerie de marine ...	74,739 31	37,000 0	111,739 31	170,500 0
72. Constructions navales ...	3,857,623 87	...	3,857,623 87	5,748,415 46
73. Usines et amirautés ...	192,977 16	183,441 0	376,418 16	421,297 41
74. Loyer, entretien, construction et réparation d'édifices ...	460,958 94	291,822 0	752,780 94	1,351,391 76
75. Transports de matériel, salaires d'ouvriers, missions et menues dépenses ...	1,781,210 60	1,760 0	1,782,970 60	2,504,530 59½
76. Ports de la Sibérie ...	677,097 32	13,210 30	690,307 62	1,264,312 28
77. Dépenses de réorganisation des administrations centrale et des ports, et entretien des établissements, phares, marins et navires restant, à la suite des suppressions, dans les ports de la Mer Noire, et de la Mer Caspienne ...	...	1,781,894 64	1,781,894 61	...
78 Dépenses pour les besoins d'autres administrations ...	505,362 7	25,000 0	530,362 7	...
Total du Ministre de la Marine ...	11,130,787 84	2,512,327 23	16,643,115 7	21,636,417 9½

8. Ministère des Finances.

Dépenses d'Administration Générale.

79. Administration centrale ...	1,254,356 78½	151,052 25½	1,405,409 4	1,427,330 59½
80. Administrations locales ...	5,312,875 58	127,173 35	5,440,048 93	5,039,946 34
81. Parties technique et pédagogique ...	274,618 56	21,202 18	295,820 74	302,215 89½
82. Pièces d'artillerie, projectiles, et métaux préparés dans les usines pour les Ministères de la Guerre et de la Marine ...				
83. Fabrication des papiers d'Etat ...	1,730,024 28¾	...	1,730,024 28¾	1,909,329 89½
84. Pensions et secours au personnel, aux veuves, et aux orphelins ...	...	290,500 0	290,500 0	242,100 0
85. Subventions à diverses administrations, villes et compagnies d'actionnaires ...	16,877,101 92½	...	16,877,101 92½	16,754,204 41¾
86. Indemnités—	2,768,614 97¼	2,486,535 31¼	5,255,150 28½	5,112,108 39½
Au Danemark, pour l'abolition des droits du Sund ... ... R. c. 661,000 0				
A divers en dédommagement de la diminution des intérêts servis par la Banque, et de la perte de casuel provenant d'assimilation des navires étrangers aux nationaux pour les droits de tonnage 91,230 83¾				
87. Restitutions de fonds indûment versés au trésor ...	91,230 83¾	661,000 0	752,230 83¾	3,177,179 25¼
88. Dépenses extraordinaires—pour le trésor, 4,000,000 r., et pour les provinces, 4,462,000 r., ensemble ...	537,130 2	25,000 0	562,130 2	500,000 0
89. Etablissement de militaires non gradés dans les terres de la Couronne ...	8,462,000 0	...	8,462,000 0	9,250,875 60
90. Dépenses du recrutement ...	548,450 0	...	548,450 0	530,711 6
91. Achat de quittances de recrutement pour être revendues aux recrues qui veulent se racheter ...	600,000 0	...	600,000 0	...
92. Fonds mis à la disposition des délégations provinciales et des administrations de bailliages pour l'entretien des écoles dans les villages domaniaux ...	300,000 0	...	300,000 6	527,000 0
93. Allocation complémentaire pour les dépenses imputables sur le fonds commun des paysans domaniaux formé du produit d'une redevance spéciale... ...	714,036 0	...	714,036 0	...
94. Transports de fonds, frais de voyages de fonctionnaires, hautes-payes, remboursements de créances particulières hypothéquées sur des immeubles confisqués, éducation d'enfants, et menues dépenses diverses ...	396,661 55	...	396,661 55	...
	1,007,210 78½	167,956 40	1,175,167 18½	1,190,097 59½
	40,874,311 30¼	3,930,419 49¾	44,804,730 80	45,963,099 0¾

		Dépenses.		Total.	Allocations de l'Exercice 1866.
		Permanentes.	Temporaires et Extraordinaires.		
		Roubles c.	Roubles c.	Roubles c.	Roubles c.
	Frais de Perception.				
	Accises. R. c.				
95.	Entretien des administrations locales d'accise ... ... 6,874,021 81 Dépenses administratives pour les boissons et les sels 1,891,353 92¾	8,085,312 86¼	680,062 87½	8,765,375 73¾	7,644,086 15¼
96.	Indemnités à divers, en dédommagement de revenus sur les boissons qui ont fait retour au trésor ...	2,688,599 50	7,125 0	2,695,724 50	2,721,608 25
	Patentes de Commerce.				
97.	Fonctionnaires inspecteurs du commerce	...	269,710 0	269,710 0	321,900 0
	Impôts Divers.				
98.	Indemnités aux villes pour les redevances des paysans des tribunaux urbains et les revenus des anciennes terres épiscopales en Lithuanie, qui ont fait retour au trésor	2,370 26	...	2,370 26	2,370 26
	Priviléges et Lettres Patentes.				
99.	Frais de fabrication des lettres patentes	1,072 0	...	1,072 0	8,991 82
	Timbres. R. c.				
100.	Entretien de la caisse du timbre ... ... 19,721 16½ Fabrication de papier à timbre 183,000 0	202,649 16½	72 0	202,721 16½	200,087 16½
	Douanes.				
101.	Entretien des douanes, barrières des douanes, et de la garde frontière ... ... 3,844,227 12½ Dépenses économiques, de constructions, et autres... ... ... 478,489 84¾	4,285,586 69	37,130 28½	4,322,716 97½	4,869,178 63
	Monnaies et Mines.				
102.	Entretien des hôtels des monnaies, des bureaux de contrôle, et des administrations de mines et usines ... ... 1,231,981 34½ Exploitation des métaux, fabrication de produits métalliques, transports, et frais divers 3,202,436 69	3,135,727 86¼	1,298,690 17¼	4,434,418 3½	3,835,106 22½
	"Indicateur" du Ministère des Finances et "Recueil" de Renseignements et Matériaux concernant la même Ministère.				
103.	Dépenses de publication de "L'Indicateur" et du "Recueil"	20,000 0	...	20,000 0	20,000 0
104.	Pensions au personnel de l'imprimerie de l'Université de Moscou	9,061 74	...	9,061 74	...
		18,483,383 8	2,292,790 33¼	20,726,173 41¼	19,173,328 48¼
	Total du Ministère des Finances	59,307,694 38¼	6,223,209 83	65,530,904 21¾	65,136,427 49*

* Les évaluations du Budget de 1866 ne s'élevaient qu'à 64,078,716 roubles 49 copecks, mais cette somme ne comprenait pas 530,711 roubles pour l'établissement de militaires non gradés dans les villages domaniaux, non plus que 527,000 roubles pour achat de quittances de recrutement, ces deux allocations ayant été alors portées au Budget du Ministère des Domaines de l'Empire.

9. Ministère des Domaines de l'Empire.				
Dépenses d'Administration Générale.				
105. Administration centrale	533,805 69	74,090 56½	607,896 25½	778,033 53½
106. Administration locales	997,755 13½	49,422 73	1,047,177 86½	1,812,989 49½
107. Etablissements forestiers, d'éducation, et agronomiques	553,501 39	54,756 69	608.258 8	708,691 17
108 Encouragements à l'agriculture et propagation de notions rationnelles y relatives	73,550 63	44,459 60	118,010 23	136.466 13
109. Arpentage péréquation, lustration, et cadastre	261,362 45½	414,332 28	675,694 73½	720,971 9½
110 Transmigrations de paysans	...	22,000 0	22,000 0	109,750 0
111. Service des arendes en argent	...	2,000,000 0	2,000,000 0	1,972,908 48
112. Subventions pour constructions d'églises, éducation d'enfants, et autres menues dépenses	268,082 27	303,542 83	571,625 10	957,031 80½
	2,688,057 57½	2,962,604 69½	5,650,662 27	7,196,841 70½
Frais de Perception des Revenus des Forêts.				
113. Entretien de l'administration forestière dans les provinces et aménagement des forêts	1,174,048 79	148,563 18	1,322,611 97	1,235,219 99
Total du Ministère des Domaines de l'Empire	3,862,106 36½	3,111,167 87½	6,973,274 24	8,432,061 69½*
10. Ministère de l'Intérieur.				
Dépenses d'Administration Générale.				
114. Administration centrale	633,000 85½	26,242 77	659,243 62½	648,938 54½
115. Censure	221,709 0	...	221,709 0	224,209 0
116. Administrations provinciales	8,507,769 56	870,541 20½	9,378,310 76½	8,111,352 71½
117. Administration des Baschkirs	179,936 52½	2,229 35	182,165 87½	225,220 70½
118. Partie pédagogique	70,527 60½	3,228 64	73,756 24½	77,856 24½
119. Service sanitaire	796,742 61½	43,310 78½	840,053 40	619,429 46½
120. Cultes étrangers	683,876 34	...	683,876 34	720,881 68½
121. Transports de détenus	953,042 75	76,642 9½	1,029,684 84½	1,112,055 43½
122. Subventions aux établissements de l'assistance publique, aux villes et à diverses institutions, et dépenses pour les églises des Gouvernements de l'Ouest	1,342,102 12	141,579 61	1,483,681 73	2,177,179 20½
123. Loyers et entretien d'édifices	896,491 35½	40,523 33½	937,014 69	1,090,981 60½
124. Remplaçants militaires dans les Gouvernements de la Baltique	228,000 0	...	228,000 0	...
Total du Ministère de l'Intérieur	14,513,198 73½	1,204,297 78½	15,717,496 51½	15,008,104 59½
11. Ministère de l'Instruction Publique.				
Dépenses d'Administration Générale.				
125. Administration centrale	155,098 18	8,852 0	163,950 18	151,871 8
126. Administration des arrondissements scolaires	220,743 37	31,834 65	252,578 2	295,180 30
127. Universités et Lycées	1,828,558 38	20,520 14	1,849,078 52	1,846,626 12
128. Gymnases	2,304,035 21	240,210 2¾	2,544,245 23¾	2,365,999 33
129. Ecoles de district, de paroisse et primaires, et établissements spéciaux d'éducation	1,495,282 42	119,593 40	1,614,875 82	1,583,137 85
130. Subventions pour les sciences et la pédagogie, dépenses de constructions, préparation de professeurs et de maîtres, et menues dépenses diverses	511,745 70	207,405 66	719,151 36	819,649 91
	6,515,463 26	628,415 87½	7,143,879 13½	7,062,464 59

* Dans le Budget de 1866 cette allocation était de 9,489,722 roubles 69¾ copecks, soit en plus, 1,057,711 roubles qui, dans le Budget de 1867, ont été passés au Ministère des Finances.

	Dépenses.		Total.	Allocations de l'Exercice 1866.
	Permanentes.	Temporaires et Extraordinaires.		
	Roubles c.	Roubles c.	Roubles c.	Roubles c.
Frais de perception des Produits de l'Imprimerie de l'Académie des Sciences et de ses Publications Scientifiques.				
131. Entretien de l'imprimerie et dépenses pour le matériel de l'enseignement et pour la publication du "Journal du Ministère de l'Instruction Publique"	111,935 63	...	111,935 63	...
Total du Ministère de l'Instruction Publique	6,627,398 89	628,415 87¾	7,255,814 76¾	7,062,464 59
12. Ministère des Voies de Communication.				
Dépenses d'Administration Générale.				
132. Administration centrale	670,655 70	68,412 11	739,067 81	715,760 18
133. Administrations locales	1,340,740 45½	49,882 80	1,390,623 25½	1,715,326 59½
134. Partie pédagogique	97,926 70	12,975 0	110,901 70	118,251 70
135. Voies navigables	623,886 55	638,253 7¾	1,262,139 62¾	1,418,088 49¾
136. Routes	3,192,317 0	129,499 11¼	3,321,816 11¼	3,555,437 0
137. Construction et entretien des édifices et ouvrages d'art	53,506 0	330,342 1	383,848 1	362,504 87¼
138. Subventions (garanties) aux compagnies particulières de chemins de fer	...	4,713,972 62½	4,713,972 62½	3,000,000 0
Frais de Perception.				
139. Chemins de fer—	5,979,032 40½	5,943,336 73¾	11,922,369 14¼	10,885,368 84½
Chemin de fer Nicolas— R. c.				
a. Entretien de l'administration du chemin de fer et de la principale usine mécanique d'Alexandrovsky 1,340,468 85				
b. Entretien des voies, des édifices et du matériel roulant 4,582,333 81¼				
c. Constructions nouvelles et réparations capitales 3,004,825 75½				
d. Dépenses imprévues d'entretiens de la voie 74,812 0				
Entretien des administrations et autres dépenses des chemins de fer Moscou-Toula et Odessa-Balta ...	5,564,313 77¼	3,438,126 64½	9,002,440 41¾	7,778,678 51
140. Droits de chaussée et de navigation	1,350,000 0	...	1,350,000 0	...
141. Vente d'instruments de géodésie et de mathématiques, dressement de plans d'édifices et publication du "Journal des Voies de Communication"—	104,919 95	...	194,919 95	100,738 7½
Dépenses économiques pour ces parties	23,302 55	...	23,302 55	23,538 87½
	7,042,536 27¼	3,438,126 64½	10,480,662 91¾	7,902,954 87½
Total du Ministères des Voies de Communication	13,021,568 67¾	9,381,463 38¼	22,403,032 6	18,788,323 72
13. Ministère des Postes et Télégraphes.				
Dépenses d'Administration Générale.				
142. Administration centrale	134,464 15	12,087 22	146,551 37	147,086 87
143. Administrations locales	...	38,144 38½	38,144 38½	...

144. Dépenses de l'administration des postes de l'Arrondissement de l'Ouest	420,712 40¾	3,578 30	424,290 70¾*	...
145. Télégraphes	153,975 25	172,349 65	626,324 90	668,007 98¾
146. Dépenses diverses	157,306 88	7,881 56	165,188 44	165,519 12
	866,958 68¾	533,541 11½	1,400,499 80¾	980,613 97¾
Frais de Perception.				
147. Personnel des postes	1,321,498 22¾	62,000 33½	1,383,499 56¼	1,341,756 72
148. Réception, livraison, et expédition des correspondances	1,895,688 25	...	1,895,688 25	1,935,566 79½
149. Enveloppes timbrées	20,179 13	...	20,179 13	18,779 13
150. Subvention pour l'entretien des relais de chevaux de poste imputable sur les redevances territoriales attribuées au Trésor	7,568,800 57½	...	7,568,800 57½	8,025,356 90
Télégraphes— R. c.				
Entretien de l'administration avec ses sections et stations 1,146,817 81¼				
Entretien et renouvellement capital progressif des lignes et des fils télégraphiques et dépenses diverses 848,311 58¾				
	1,955,717 70	39,411 70	1,995,129 40	2,190,000 0
	12,761,883 88½	101,413 3½	12,863,296 91¾	13,511,459 54½
Total du Ministère des Postes et Télégraphiques	13,628,842 57	634,954 15	14,263,796 72	14,492,073 52½†
14. *Ministère de la Justice.*				
Dépenses d'Administration Générale.				
152. Sénat dirigeant et institutions de son ressort	1,164,590 88¾	34,488 85¾	1,199,079 74½	1,147,468 43½
153. Administration centrale	135,694 6	10,957 17	146,651 23	143,210 30
154. Tribunaux de Gouvernement, de district, d'arrondissement et institutions judiciaires spéciales à certaines localités	5,087,814 93	285,133 49	5,372,948 42	4,919,692 91¼
155. Contrôle provincial et de district	338,255 44	19,430 61	357,686 5	403,860 91
156. Arpentage	578,496 10½	111,254 28½	689,750 39	739,759 76½
157. Ecole Impériale de droit	166,719 56	5,014 0	171,733 56	163,633 56
158. Dépenses pour la mise en vigueur des codes judiciaires et dépenses diverses	253,444 74	1,492 85	254,937 59	90,035 22
	7,725,015 72¼	467,771 26½	8,192,786 98½	7,607,661 10
Frais de Perception.				
159. Imprimeries du Sénat	122,897 23	...	122,897 23	124,418 67
Total du Ministère de la Justice	7,847,912 95¼	467,771 26½	8,315,684 21½	7,732,079 77
15. *Contrôle de l'Empire.*				
Dépenses d'Administration Générale.				
160. Entretien de l'administration	229,537 15½	1,487,414 78¼	1,716,951 93¾	1,510,801 85¾

* Y compris 378,860 roubles 70¾ copecks de frais de perception.

† Soit 78,568 roubles 80 copecks de moins sur le chiffre de 14,570,642 roubles 32¼ copecks auquel s'élevait ce crédit pour l'exercice 1866. Ce surplus s'appliquait à l'opération des malles-postes et n'est pas nécessaire pour 1867.

	Dépenses.		Total.	Allocations de l'Exercice 1866.
	Permanentes.	Temporaires et Extraordinaires.		
	R. c.	R. c.	R. c.	R. c.
16. *Direction Générale des Haras de l'Empire.*				
Dépenses d'Administration Générale.				
161. Administration centrale	69,905 0	...	69,905 35	70,220 24½
162. Haras de l'Etat et établissements hippiques à Moscou et à St. Pétersbourg	158,249 18	3,000 0	161,249 18	196,157 66½
163. Dépenses économiques d'exploitation	263,104 81¾	20,000 0	283,104 81¾	299,540 85
164. Dépenses de construction et diverses	51,425 0	2,400 0	53,825 0	50,275 0
Total pour les Haras de l'Empire	542,684 34¾	25,400 0	568,084 34¾	616,193 76
17. *Dépenses du Royaume de Pologne non comprises dans les Budgets Spéciaux des Ministères de l'Empire.*				
165. Système de crédit du royaume	...	3,873,937 18¾	3,873,937 18¾	...
166. Chancellerie du Lieutenant de l'Empereur	281,812 68	28,348 75	310,161 43	...
167. Commission juridique	...	64,830 0	64,830 0	...
168. Administration de la justice	825,618 44	8,331 40	833,949 84	...
169. Intérieur et cultes	6,298,431 24¾	375,873 62½	6,674,304 87¼	...
170. Instruction publique	1,563,650 18	84,350 0	1,648,000 18	...
171. Finances	4,676,381 82¾	1,294,768 69½	5,971,150 52¼	...
172. Voies de communication	605,287 93¼	137,388 33¼	742,676 26½	...
Total pour le Royaume de Pologne	14,251,182 31	5,887,827 99	20,119,010 30*	...
18. *Administration Civile du Transcaucase.*				
173. Dépenses de l'Administration Civile et de l'organisation du Transcaucase, imputables sur les revenus de cette contrée laissés à la disposition du Lieutenant de l'Empereur	3,999,164 4½	539,128 21	3,938,292 25¼	3,693,122 80½
174. Dépenses du Transcaucase imputables sur les fonds du Trésor	952,258 24¾	...	952,258 24¾	642,321 87½
Total pour le Transcaucase	4,351,422 29	539,128 21	4,890,550 50	4,335,444 68
Total des Dépenses Ordinaires de l'Etat	275,848,162 40½	122,450,667 61½	398,298,830 1¾	364,582,792 61½
175. (B.)—Non Valeurs dans les Recettes	4,000,000 0	...	4,000,000 0	4,000,000 0
(C).—Depenses d'Ordre.				
176. Volumes du corps des lois expédiés pour compte du Trésor, et travaux pour les grands corps de l'Etat exécutés par l'Imprimerie de la IIe section de la Chancellerie particulière de l'Empereur	126,865 0	...	126,865 0	131,735 0

* Y compris 1,145,453 roubles 25½ copecks pour frais de perception.

177. Dividendes afférents aux actions de l'établissement d'eaux minérales à St. Pétersbourg abandonnés à l'établissement	...	3,000 0	3,000 0	4,269 82
178. Métaux et matériel métallique préparés aux mines et usines pour les Ministères de la Guerre et de la Marine	2,089,401 25¾	...	2,089,401 25¾	2,262,312 81
179. Frais d'arpentage dans les Gouvernements de Poltava et de Tchernigow	50,000 0	200,000 0	250,000 0	262,000 0
180. Entretien et dépenses économiques de l'expédition de fabrication des papiers d'Etat	603,244 39	4,489 45	607,733 84	556,474 65
181. Hautes payes aux médecins de district et de ville et dépenses de publication du journal "Archives de Médecine Légale et d'Hygiène Publique" imputables sur le produit de la vente du papier timbré spécial pour les actes médicaux	300,000 0	...	300,000 0	300,000 0
182. Approvisionnements de vivres, de fourrages et d'autre matériel destinés à être vendus à d'autres administrations, et autres dépenses faites par certaines administrations pour compte d'autres	1,047 012 63	29,459 97¼	1,076,472 60¼	1,148,718 96¾
183. Dépenses diverses remboursables	5,043,000 0	3,081,590 88	8,124,590 88	7,706,800 0
184. Pour faire face aux dépenses des Budgets clos	3,500,000 0	...	3,500,000 0	500,000 0
Total des Dépenses d'Ordre	12,759,523 27¾	3,318,540 30½	16,078,063 58	12,872,311 24¾
Total	292,607,685 68¼	125,769,207 91½	418,376,893 59¾	381,455,103 86¼
185. (D.)—Dépenses Temporaires Extraordinaires pour la Construction des Chemins de Fer, couvertes par des ressources extraordinaires spéciales	...	25,473,277 43	25,473,277 43	19,930,944 67
Total Général des Dépenses	292,607,685 68¼	151,242,485 34½	443,850,171 2¾*	401,386,048 53¼†

* Dans ce chiffre figurent—

	Roubles	c.
a. Les dépenses d'administration générale pour	350,998,664	54½
b. Les frais de perception	47,300,165	47¾
c. Les non-valeurs sur les recettes	4,000,000	0
d. Les dépenses d'ordre	16,078,063	58
e. Les dépenses pour construction de chemin de fer couvertes par des ressources extraordinaires spéciales	25,473,277	43
Total égal	443,850,171	2¾

† Dans le Budget de 1866 les dépenses étaient évaluées à 404,068,004 roubles 89¼ copecks, soit 2,681,955 roubles 86 copecks de plus que le chiffre porté ici. Ce surplus se rapporte aux crédits de 2,445,739 roubles 97¼ copecks pour le Ministère de la Guerre, et de 78,568 roubles 80 copecks pour celui des postes et télégraphes, non portés ici dans la colonne des allocations de l'exercice 1866, comme il a été dit plus haut; le reste de la différence, s'élevant à 157,647 roubles 8¾ copecks formait le montant des dépenses des Colonies du Midi, maintenant supprimées.

Outre les dépenses inscrites au présent Budget, il reste encore à exécuter, dans le courant de l'exercice 1867, des travaux de construction portés au Budget de 1866, pour les sommes ci-dessous savoir:

Dans le ressort du Saint-Synode pour construction et reconstruction d'églises et d'édifices, pour 100,811 roubles 62½ copecks; du Ministère des Finances pour construction de nouvelles casernes et réparations d'anciennes, destinées à la garde frontière, pour 101,792 roubles 80 copecks—et du Ministère des Voies de Communication suivant les besoins effectifs, sur les crédits alloués aux Articles 1 et 2 du § 8, 1 et 2 du § 9, aux alinéas *a* et *b* de l'Article 1 du § 10, à l'Article 1 du § 15, aux Article 1 et 7 du § 16, 1 du § 17, 13 du § 18 et sur les crédits extraordinaires.

Summary of Budget of the Russian Empire for 1866 and 1867.

REVENUE.	1867.	1866.
I. *Ordinary Receipts.*	£ sterling.	£ sterling.
1. Taxes—		
a. Direct	6,915,350	5,946,619
b. Indirect (Excise, Customs duties, stamps, &c.) ...	24,998,747	24,227,314
2. Royalties (mines, coinage, posts, telegraphs, &c.) ...	2,352,898	2,060,688
3. State domains	8,392,038	7,609,420
4. Miscellaneous ("Recettes diverses")	6,233,953	5,867,650
5. Revenues of Poland not included in Departmental Budgets	2,794,243	...
6. Transcaucasian revenues	525,105	492,419
Total Ordinary Receipts	51,612,334	46,204,110
II.		
7. Extraordinary Resources (from Anglo-Dutch Loan of 1866)	2,027,505	2,877,857
III.		
8. Special Receipts ("Recettes d'Ordre")	2,143,741	1,716,308
IV.		
9. Special resources for construction of railways	3,396,437	2,657,459
Allow for fractions of roubles not converted into pounds sterling...	5	...
Grand Total	59,180,022	53,455,734

EXPENDITURE.	1867.	1866.
I. *Ordinary Expenses.*	£ sterling.	£ sterling.
1. Public Debt*	9,846,153	9,144,891
2. Superior State Departments	225,506	164,136
3. The Holy Synod (Church and Clergy)	903,247	810,768
4. Ministry of the Emperor's Household	1,189,298	1,028,989
5. ,, of Foreign Affairs	295,897	296,282
6. ,, of War	16,060,044	15,199,385
7. ,, of Marine	2,219,082	2,884,855
8. ,, of Finance	8,737,453	8,684,856
9. ,, of the State Domains	929,769	1,124,271
10. ,, of the Interior...	2,095,666	2,001,080
11. ,, of Public Instruction	967,442	943,662
12. ,, of Public Works ("voies de communication") ...	2,987,071	2,505,110
13. ,, of Posts and Telegraphs...	1,901,839	1,932,276
14. ,, of Justice	1,108,758	1,030,944
15. Audit Office	228,926	201,440
16. Breeding studs of the Empire	75,744	82,159
17. Expenses of Poland not included elsewhere	2,682,534	
18. Expenses of the Transcaucasus—		
a. Taken from the revenues of the country	525 105	492,416
b. From the Treasury	126,967	85,642
Total Ordinary Expenses ...	53,106,501	48,611,165
II.		
19. Deficit in Receipts ("non valeurs sur les recettes") ...	533,333	533,333
III.		
20. Special expenditure ("dépenses d'ordre")	2,143,741	1,716,308
IV.		
21. Extraordinary, for construction of railways	3,396,437	2,657,459
Allow for fractions of roubles not converted ...	10	...
Grand Total	59,180,022	53,518,265

* The interest on the public debt is here somewhat under-rated in pounds sterling, as about one-third of it has to be paid in foreign currency at a fixed rate of exchange, viz., at about 37*d.* to the silver rouble.

REPORTS

RECEIVED FROM

HER MAJESTY'S SECRETARIES

OF

EMBASSY AND LEGATION

RESPECTING

COAL.

WITH AN APPENDIX,

AND

REPORTS AS TO COAL PRODUCTION IN BRITISH COLONIES.

(In continuation of Papers presented in 1866.)

Presented to both Houses of Parliament by Command of Her Majesty.
1867.

LONDON:
PRINTED BY HARRISON AND SONS.
1867.

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PALL MALL

Reports on Coal.

AUSTRIA.

Lord Bloomfield to the Earl of Clarendon.

(Extract.) *Vienna, June 27*, 1866.

WITH reference to your Lordship's despatch of the 1st of March last, inclosing to me copies of various Reports on the mineral statistics of foreign countries, I have now the honour to transmit to you herewith a Report drawn up by Mr. Bonar relative to the coal production of Austria.

Inclosure.

Report by Mr. Bonar.

Coal Statistics of Austria.

THE total production of coal in Austria during the last five years was as follows:—

Year.	Steinkohle. (True coal of the Trias and Liassic Periods.)	Braunkohle. (Lignite of the Eocene and Miocene Periods.)	Total.
	Vienna cwt.	Vienna cwt.	Vienna cwt.
1855	21,079,463	16,439,306	37,518,769
1860	34,739,103	27,780,476	62,569,579
1861	40,506,461	32,086,781	72,593,242
1862	45,059,035	36,235,347	81,294,382
1863	45,566,852	36,109,553	81,676,405
1864	45,310,803	37,923,162	83,233,965

18½ Vienna cwt. equal to 1 ton English.

The tertiary coal, or brown coal, and lignite of the eocene and miocene periods, is found throughout the provinces of the Austrian

Empire, and of a quality which permits it to be universally employed in the various branches of industry, namely, for railways, for river steam navigation, and in most manufactories and other works.

The steamers on the Adriatic, however, employ chiefly British coal, in the proportion of two-thirds of British true coal to one-third of Istrian or Dalmatian lignite; whilst their average annual consumption is: for the Imperial navy, 10,000 Vienna tons; for Lloyds' steamers about the same quantity.

The steamers on the River Elbe, plying between Leitmeritz and Dresden, use exclusively brown coal of Bohemia, derived from the district of Aussig.

The Teplitz-Aussig Railway employs for its engines the brown coal of the north of Bohemia.

The Southern Railway (Südbahn Vienna-Trieste, &c.) burns the lignite of Styria.

Gas is derived from the Bohemian brown coal of Teplitz.

The sugar manufactories and spindles of Northern Bohemia, as also the considerable manufactory of chemicals at Aussig, are worked exclusively with brown coal.

Numerous other examples might be quoted.

The coal-fields of Fünfkirchen in Hungary (of the liassic period) are estimated to contain, counting a depth of 200 klafter, or 1,800 feet only, a quantity of coal equal to at least 3,000,000,000 cwt., or circa 120,000,000 English tons.

The produce of the Fünfkirchen mines in 1865 amounted to 4,074,221 Vienna cwt.

The total consumption of coal by the Danube steam navigation comprised in 1865, as follows:—

Mines.	Quality.	District.	Vienna cwt.
Fünfkirchen	Lias coal	Hungary	2,811,675
Steierdorf	Ditto	Banat	213,811
Koslaer	Ditto	Military frontiers	146,803
Erbenthal	Ditto	Military frontiers	36,751
Ostrau	Ditto	Moravia	389,033
Bohemian	Ditto		371,353
Zwickau	Ditto	Saxony	3,804
British	Ditto		47,875
Reichenburg	Brown coal	Styria	92,401
Total			4,113,505

The probable amount of coal contained in the Steierdorf veins, of liassic period, in Banat, has not been estimated. At present their annual produce is equal to circa 3,000,000 Vienna cwt.

Among the works which afford the best and most detailed information relative to the various coal formations and produce of Austria and of Germany generally, as well as their qualities and employ, the following may be quoted:—

"Die Steinkohle Deutschland's und anderen Länder," by Dr. Geinitz; Fleck and Hartig, 1865.

"Die Braunkohle und ihre Vervendung," by Zinken; Hanover, 1865.

"Untersuchungen über den Brennwerth der Braunkohlen und Steinkohlen der Oesterreichischen Monarchie," by Carl Ritter von Hauer; Vienna, 1862.

(Signed) A. G. G. BONAR.

Vienna, June 25, 1866.

BADEN.

Mr. Gordon to Lord Stanley.

My Lord, *Stuttgardt, November* 15, 1866.

I HAVE the honour to forward herewith a despatch which I have received from Mr. Baillie, reporting the produce of the coal mines and coal trade in the Grand Duchy of Baden for 1865.

I have not received from this Government the information which I requested on the same subject, in compliance with your Lordship's circular despatch of the 25th of September last.

I have, &c.

(Signed) G. J. R. GORDON.

Inclosure.

Mr. Baillie to Mr. Gordon.

Sir, *Baden, November* 14, 1866.

I HAVE the honour to inform you that the internal coal trade in the Grand Duchy of Baden during the year 1865 represented an amount of about 6,000,000 centners, or 15,000 tons, of which 265,000 centners, or 6,625 tons, is stated to have been coke.

This coal is all drawn from the Saar and Ruhr coal mines.

About 2,575 tons of British coal for the manufacture of gas were also imported by Baden mercantile houses at Mannheim.

The produce of the Baden coal mines of Berghaupten, Diersburg, and Hagenbuch is insignificant. The quality of the coal is anthracite; it is chiefly consumed in the country, only a small amount leaving the Grand Duchy by way of Strasburg.

The quantity extracted in the under-mentioned years was as follows:

	Tons.		Tons.
1860	5,310	1863	4,836
1861	4,204	1864	6,169
1862	4,537	1865	5,100

I regret that I have been unable to obtain this information sooner from the Baden Government. I must, however, observe that the returns of the Baden coal trade are at present very defective, and the amount can only be given approximatively, especially as no proper distinction is made between the importation of coal and coke.

I have, &c.

(Signed) EVAN P. M. BAILLIE.

BAVARIA.

Sir H. Howard to Lord Stanley.

My Lord, *Munich, December* 10, 1866.

I HAVE the honour to transmit herewith the Report which Mr. Fenton, Her Majesty's Secretary of Legation, has drawn up in compliance with the general instructions of Her Majesty's Government on the Coal Fields and Production of Coal in Bavaria.

Mr. Fenton has bestowed much research and pains in procuring the materials for this Report and in framing it, and it certainly contains as clear and comprehensive an elucidation of the subject as it was possible to draw up from the information at his disposal.

I have, &c.
(Signed) HENRY F. HOWARD.

Inclosure.

Report by Mr. Fenton on the Coal Fields and Production of Coals in Bavaria.

Munich, December 6, 1866.

IN a Statistical work published in the year 1861, by the Department of State, "Domains and Forests of Bavaria," and in which amongst various subjects connected with that Department, the resources of the Kingdom as regards firewood and other materials used for fuel are treated, I have found some details respecting the coal-fields of Bavaria, the different mines then at work, and the quantity and general character of the coal obtained from them; and as no return appears to have been as yet made from this Mission to the first of the series of inquiries contained in Earl Russell's Circular of May 3, 1865, on the subject of coal, namely, respecting "the extent and general character of the coal fields actually worked," I think that I cannot do better than commence this Report by giving, in a condensed form, the substance of the information on those points which is to be found in the volume in question.

I will premise by stating that two distinct descriptions of coal are found in Bavaria, the one known as stone coal, the other as brown coal, the latter consisting of two kinds, namely, the so-called pitch coal, and the ordinary brown coal or lignite; and I may here allude to the circumstance that a question was raised in

England last year, with reference to a Report on Coal which was sent to the Foreign Office from this Mission, as to whether any of the coal of Bavaria could be considered as coming under the designation of old stone coal, or whether it should not all be held to be brown coal or lignite of a more or less pure or perfect description.

I need hardly say that I have not the pretension to solve this question myself; nor have I been able to find its solution in the work to which I have already referred, neither to ascertain from private inquiries whether or to what extent the stone coal of Bavaria is identical with the old stone coal of Great Britain. But in Bavaria a clear distinction is drawn between what is here termed stone coal (Steinkohl) and that known as pitch or brown coal; the better descriptions of the former, that for instance from the mines of St. Ingbert, in the Bavarian Palatinate, being considered as greatly superior to the latter, and selling at a much higher price. I may add, that at Munich and in the other great coal markets of Bavaria, the St. Ingbert coal ranks, in point of quality, with that from the mines of Saarbruck in Rhenish Prussia, and fetches the same price; indeed the two descriptions are considered as identical. To the unscientific observer the Bavarian stone coal and even some of the pitch coal appear strongly to resemble the coal generally used for domestic purposes in England. It burns brightly and well in the open grate, produces only about the usual quantity of smoke, and throws out considerable heat; and whatever the composition of the one and the other description may be, in a scientific point of view, they both unquestionably constitute a very excellent material for firing; and I am assured that the use of the pitch and brown coal is greatly on the increase in the private houses, as well as in the breweries of Munich and the other large towns of Southern Bavaria, where until recently little else than wood was burnt. It would appear, however, that for certain special purposes the pitch and brown coal are not well suited. Thus, for instance, they are not found to fulfil all the requirements of good fuel for railway engines, partly on account of their failing to produce a sufficiently intense degree of heat, and partly from the quantity of sulphur which they contain and which has an injurious effect upon the heating apparatus. It is, therefore, only used for railway purposes in small quantities, and in combination with stone coal, such as that from Bohemia, Saxony, or Saarbruck, or from the mines of the Bavarian Palatinate, of all of which there is a considerable consumption on the different railways of Bavaria.

Whilst speaking of coal in connexion with railways, it may perhaps not be inopportune to state that on the Government railways of Bavaria (which constitute two-thirds of the whole railway network of the kingdom), turf is employed on a large scale, in combination with coal, coke and wood, as fuel for the engines; no less than 12,511,696 cubic feet of ordinary turf and 6,167 tons (English) of condensed turf having been consumed on those railways during the year ended September 30, 1865 (the last

for which the railway returns have been made up). The consumption of coal of all descriptions (principally Saarbruck) on those lines, during that year, was 85,604 tons, and that of wood 440,543 cubic feet.

I learn further that none of the Bavarian pitch or brown coal is well adapted for the manufacture of gas, as it appears that the gas obtained from it is of so impure a quality as to require a very long and expensive process of purification before it can be made use of. The gas works of Northern Bavaria, therefore, draw their supplies of coal chiefly from Saxony, those of Western Bavaria from Rhenish Prussia and the Bavarian Palatinate, and those of the Eastern and Southern Provinces, chiefly from the mines of Falkenau, near Eger, in Bohemia.

The following is a summary of the information contained in the publication, already mentioned, respecting the coal fields of Bavaria, the general extent of the mining operations carried on during the year in which the work was compiled (1859), and the nature and quantity of the coal produced.

Stone Coal.—By far the most important deposit of stone coal in the Bavarian dominions is that which exists in the south-westerly district of the Province of Rhenish Bavaria, or the Palatinate, near the Saarbruck frontier of Rhenish Prussia.

There are, in addition, two small but productive stone coal districts of Stockheim, near Kronach, in Upper Franconia, and of Erbendorf, in the Province of Upper Pfalz.

The coal-field of the Bavarian Palatinate is contiguous to, and in fact a continuation of, the great coal basin of the adjoining Prussian district of Saarbrück, and has an area of $11\frac{1}{2}$ German square miles (5 English miles each).

The richest and most productive portion of the Palatinate coal-field is the south-westerly section, comprising the districts of St. Ingbert and Bexbach, both of which are the property of the State, and the mines of which are worked by the Bavarian Government. The least productive portion is that which lies to the north of those districts.

The different seams or veins of coal in the St. Ingbert district, lying within a maximum depth of 3,500 feet from the surface, are calculated to contain about 55,000,000 tons.

The St. Ingbert coal is used partly for household purposes, but chiefly as fuel for steam machinery. The moist or "greasy" description is especially adapted for use in smithies and forges, and it finds a considerable sale for these purposes in France. A very large proportion is converted into coke, and used in that shape in the manufacture of iron.

The coal veins of the Bexbach district, of which there are fourteen of sufficient importance to be worth working, are less regular and less productive than those of St. Ingbert. The coal, too, being of a poorer or less greasy description, cannot be converted into coke.

The mines of the two districts of St. Ingbert and Bexbach produced in the year 1859, 124,983 tons of stone coal.

In the mines of the northern, and in proportion to its extent far less productive, division of the Palatinate coal-field (all of which, with two exceptions, are the property of private individuals), fifteen different seams of stone-coal are worked, all of them of small dimensions, the largest being only about 12 inches thick.

In point of quality the coal derived from them is inferior to that of the Bexbach district, and it is only made use of for lime-burning and for domestic purposes.

The produce of the mines of the northern division of the Palatinate coal-field, sixty-five in number, was, in the year 1859, only 18,576 tons. This, added to the quantity produced, as already stated (124,983 tons), by the mines of the southern division of the coal-field (St. Ingbert and Bexbach), gives a total yield for the whole Palatinate, in that year, of 143,559 tons of stone-coal.

The heat-producing power of the stone-coal of the Palatinate varies considerably.

Seven Bavarian centners (about 7¾ cwts. English) of the best description of this coal, is considered to be capable of generating as much heat as a Bavarian fathom (126 cubic feet) of hard wood; whilst of the inferior quality of that coal, 12 Bavarian centners are required to produce that amount of heat.

The small coal-field of Stockheim, near Kronach, in Upper Franconia, contains but one vein of stone-coal. It is of a moist or greasy description, which "cakes" easily, and it is therefore well adapted for conversion into coke. In this shape it is largely employed as firing for railway engines, and some of it, in its natural condition, is used for household purposes. About 10 Bavarian centners (11 cwts. English) of this coal are calculated to produce as much heat as 126 cubic feet of hard fire-wood.

In the year 1859 there were eight different mines at work in the Stockheim district, and they produced 42,789 tons of stone-coal.

The quantity of stone-coal produced in the same year by the one mine at Erbendorf, in the Province of Upper Pfalz, was 140 tons.

Thus the aggregate production of all the stone-coal mines of the Bavarian Palatinate and of Bavaria Proper, in the year 1859, was 186,488 tons.

Brown Coal.—The brown coal found in Bavaria is of two different descriptions, namely, the pitch-coal of Southern Bavaria, resembling stone-coal in some respects, and the ordinary brown coal, a mixture of earthy coal and lignite. The latter is met with in larger or smaller quantities in every Province of the Kingdom.

The pitch-coal of Southern Bavaria is of a shining black colour, from which peculiarity it derives its name. It is of a dry sandy nature, and cannot be converted into coke; but it is well suited for household purposes, and makes very good firing for steam-engines used in manufacturing establishments.

The principal districts for the production of pitch-coal are the four following, all situated in the Province of Upper Bavaria (mining district of Munich), viz., Peissenberg, Penzberg, Tölz, and Miesbach, the two former lying to the south-west, the latter to the south of Munich, in the mountainous region near the frontier of the Tyrol, at a distance of twenty-five or thirty miles from the Bavarian capital, with which they are in direct communication by railway.

The mines of Peissenberg belong to and are worked by the State. Those of the three other districts are in the hands of private individuals.

In the Peissenberg district thirty different veins of pitch-coal are known to exist, but of these only six, varying in thickness from 9 inches to 2 feet, were actually worked in the year 1859.

In Penzberg, out of forty-eight veins, fifteen, of an average thickness of 18 inches, were worked.

In the Tölz district but few veins of sufficient thickness to be worth opening have yet been discovered.

In the district of Miesbach there are three distinct groups of veins; but in 1859 the mining operations in this neighbourhood were devoted principally to the working of the one great Leitsach vein, 40 inches thick.

Ten to twelve Bavarian centners (about 11 to 13¼ English cwts.) of the pitch-coal of Peissenberg are considered to be capable of giving out as much heat as 126 cubic feet of ordinary firewood (pine). This coal is sent in large quantities to Augsburg, where it is used in the manufacturing establishments. It also finds a market at Lindau for the supply of the steam-boats which ply on the Lake of Constance; whilst some is also sent across the Lake to Switzerland.

The coal from the Miesbach mines is sent chiefly to Munich, where a large quantity is consumed in the breweries and in private houses, and some portion of it is sent down the River Inn to the south-eastern districts of Bavaria.

The coal of Penzberg finds its chief markets at Munich and Augsburg.

The total quantity of pitch and brown coal raised during the year 1859 from the mines of the above-mentioned districts, and some few other inconsiderable mines in the same Province (Upper Bavaria), was 27,102 tons. But it is to be observed that the mines of those districts have greatly increased in productiveness (though not in number) since that date, more particularly those of Miesbach, which, as I have ascertained from a private source, alone produced 33,000 tons of coal in the year 1865.

In addition to the above-mentioned pitch and brown coal districts of Upper Bavaria, there is in the adjoining Province of Swabia, the district of Irrsee, near Kaufbeuren, in which, during the year 1859, three veins, 12 inches thick, of brown coal, of an inferior quality, were worked, and which produced in that year 528 tons.

In several districts of the Province of Upper Pfalz there is also a considerable number of brown coal mines on a greater or smaller scale. The most important are those in the neighbourhood of Sauforst, where an extraordinarily large vein of lignite, varying in thickness from 10 to 30 feet, was worked in the year already mentioned, by means of thirty-three different pits or shafts. The produce is consumed in great part in the neighbouring iron smelting works, and is in part sent to Ratisbon, where it is used in the manufacturing establishments.

In the year 1859 the total production of brown coal from the mines of the Province of Upper Pfalz amounted to 45,743 tons.

In the basaltic region of Rhön, in the Province of Lower Franconia, there are some inconsiderable mines of brown coal, which yielded 875 tons in the year 1859. The produce of these mines is consumed in the salt-works of Kissingen and in the brewing establishments in the neighbourbood.

As regards its heat-producing properties, the ordinary brown coal of Bavaria varies even more than the stone coal, but taking an average of the different qualities, 18 Bavarian centners (about 19¾ cwt.) of brown coal are considered as the equivalent of a fathom (or 126 cubic feet) of hard wood.

In the year 1859 there were at work in Bavaria altogether 73 pitch and brown coal mines, the aggregate produce from which amounted to 74,112 tons.

Of stone coal mines there were in operation 77, which produced, as already stated, 186,488 tons.

The total production of coal of both descriptions in Bavaria for that year was consequently 260,600 tons. Ten years previously scarcely one third of that quantity was produced.

As regards the production of coal in Bavaria in more recent times than those referred to in the work above cited, the annexed tables, compiled from official sources, show the number of mines at work, the number of men employed in them, and the quantity in English tons, and value, at the mine, in sterling money, of the stone coal and brown coal raised during the years 1863, 1864, and 1865. But I should point out that whilst in the statistical work to which I have already frequently referred, the coal from the four districts of Upper Bavaria (or mining district of Munich), is described as being pitch or brown coal, it appears in the official returns under the head of stone coal. From all the information I have been able to obtain on this point from other sources, it would appear that brown coal is decidedly the more correct definition: for although, as I am informed, the pitch coal of those districts belongs to an earlier formation than, and is decidedly superior in point of quality to, the ordinary description of brown coal, it is still wanting in some of the essential characteristics of stone coal, and must unquestionably be considered as forming one of the varieties of what is understood as brown coal in this country.

RETURN of Quantity, Value, &c., of Stone Coal and Brown Coal produced in Bavaria during the years 1863, 1864, and 1865.

1863.

Name of Mining District.	Stone Coal.				Brown Coal.			
	Number of Mines.	Produce in Tons.	Value in sterling.	Number of Workmen.	Number of Mines.	Produce in Tons.	Value in sterling.	Number of Workmen.
			£				£	
Amberg (Province of Upper Pfalz)	...	...	...	...	33	64,628	5,213	368
Kissingen (Province of Lower Franconia) .	...	...	...	...	9	1,453	175	24
Munich (Province of Upper Bavaria) ...	63	49,189	14,398	573	..	...	...	...
Sonthofen (Province of Swabia)	...	...	...	...	2	343	116	6
Steben (Province of Upper Franconia) ...	8	65,681	13,868	595	...	...	...	...
Bayreuth (Ditto)	3	1,976	667	40	...	...	...	...
Palatinate	62	176,853	61,776	1,150	...	...	...	...
	136	293,699	90,709	2,358	44	66,424	5,504	398
Stone Coal and Brown Coal together ...	180	360,123	96,213	2,756				

1864.

Amberg (Province of Upper Pfalz)	...	...	...	...	33	68,782	5,995	377
Kissingen (Province of Lower Franconia) .	...	...	...	...	9	996	134	20
Munich (Province of Upper Bavaria) ...	60	61,910	22,024	684	...	...	...	...
Sonthofen (Province of Swabia)	...	...	...	...	2	1,112	300	12
Steben (Province of Upper Franconia) ...	8	62,063	18,555	644	...	...	...	...
Bayreuth (Ditto)	3	1,282	432	32	...	...	...	...
Palatinate	59	176,158	61,456	1,118	...	...	...	...
	130	301,413	102,467	2,478	44	70,890	6,429	409
Stone Coal and Brown Coal together ...	174	372,303	108,896	2,887				

1865.

Amberg (Province of Upper Pfalz)	...	...	...	...	29	71,587	6,306	362
Kissengen (Province of Lower Franconia) .	...	...	...	...	7	977	138	20
Munich (Province of Upper Bavaria) ...	54	76,200	28,986	701	1	...	...	...
Sonthofen (Province of Swabia)	...	...	...	...	2	1,112	300	12
Steben (Province of Upper Franconia) ...	8	72,449	26,239	589	...	...	...	...
Bayreuth (Ditto)	3	629	212	18	...	...	...	...
Palatinate	56	212,648	79,120	1,119	3	...	...	1
	121	361,926	134,557	2,427	42	73,676	6,744	395
Stone Coal and Brown Coal together ...	163	435,602	141,301	2,822				

With reference to the export or import trade of Bavaria in coal, on which information is also required by Lord Russell's circular before-mentioned, it has on former occasions been explained (and this was recently confirmed by an official communication addressed to Her Majesty's Minister at Munich by the Bavarian Minister for Foreign Affairs), that, in consequence of the position of Bavaria as one of the central States of the German Customs Union, and of the absence, as the natural result thereof, of a Customs frontier on the greater part of the Bavarian border, no official record is kept of by far the most considerable portion of the goods entering or leaving the kingdom itself, and that therefore no return can be furnished of the proportion in which Bavaria, in particular, contributes to the coal trade, or indeed to any other branch of the general import or export trade of the entire group of States constituting the German Customs Union.

Although, however, for this reason, no complete data can be obtained as to the extent of the trade in coals between Bavaria

and other States, an approximative estimate may be formed, from the reports published relative to the traffic on the Bavarian Railways, of the quantity of coal imported from two out of the three countries from which Bavaria derives a large proportion of her supply of foreign coal, namely, Bohemia and Saxony. As regards the importation from the third of these countries,—Rhenish Prussia, it is, for reasons which I shall explain, next to impossible to arrive at any tangible result.

In the returns of the traffic of the Eastern Railway Company of Bavaria for the year ended September 30, 1865 (the latest yet made up), it is stated that the quantity of coal brought from Bohemia during that year by the line in question was 124,339 tons; and, as there is no other direct communication by railway between Bohemia and Bavaria than by that of the Eastern Company, and no special facilities for intercourse between the two countries are afforded by any other means of communication, it may be fairly assumed that that quantity represents at any rate a very considerable proportion of the whole importation of coal from Bohemia into Bavaria.

As regards the coal imported from Saxony, though the report for 1864-65 of the traffic on the network of railways belonging to the Bavarian Government (the only lines in Bavaria which are in direct communication with Saxony) gives no special information on this head, it appears from the general returns of the traffic at the different stations that the quantity of coal received at Hof was 26,611 tons; and as Hof is the station near the Bavarian frontier where the Saxon railways join those of Bavaria, it may be inferred that the whole of the quantity in question came into Bavaria from Saxony.

The only other railways in the Bavarian dominions are those of the trans-Rhenane Province of the Palatinate. The report of the traffic on those lines for 1865 states that the total quantity of coal conveyed during that year was 791,451 tons; and as according to the official mineral statistics of Bavaria for the year in question, the aggregate production of all the coal mines of the Palatinate itself was 212,684 tons, the difference between the former and latter quantities, namely, 578,497 tons, may be considered as representing the importation of coal into the Palatinate from the mines of the adjoining district of Saarbruck in Rhenish Prussia, with which, it is to be observed, the railways of the Palatinate are in direct and immediate communication.

It is, however, impossible to determine what proportion of the coals so imported was destined for the Bavarian dominions themselves; as the railway which traverses the Palatinate from the frontier of Rhenish Prussia to the Rhine forms in fact the special channel through which the supplies of Saarbruck coal, as well as that from the mines of the Palatinate itself, intended for Central and Southern Germany, are conveyed to the ports of Ludwigshafen and Maximiliansau on the Rhine, whence they are sent by water up or down the river, or are carried by means of

the steam-ferry at Ludwigshafen, or by the railway bridge at Maximiliansau, across the Rhine into the Grand Duchy of Baden, and from thence they are forwarded to their destination by railway.

It would appear that at the present time English coal only finds its way into Bavaria in very small quantities, the heavy expense of the sea and long land carriage preventing it from competing, in the Bavarian markets, with the coal of other countries. I understand that formerly both English and Belgian coals were made use of to a considerable extent in this country in the production of gas, and for other special purposes; but now that direct communication by railway has been opened between Bavaria and other coal-producing countries comparatively close at hand, a substitute for English or Belgian coal is obtainable at a very considerable saving on the price.

The following is a list of the wholesale prices at Munich of the different descriptions of Bavarian and foreign coal at the present time:—

	Per Zoll. centner.		Per ton English.	
	Fl.	kr.	*s.*	*d.*
Miesbach	0	25	11	3
Penzberg	0	27	12	2
Peissenberg	0	29	13	1
Bohemian, ordinary	0	36	16	2
Ditto, Falkenau	0	50	22	6
Saxon, Zwickau	0	46	20	8
Saarbruck (Prussia) .. St. Ingbert (Palatinate)	0	49	22	1
English .. .. From	3	24	90	0
English .. .. To	2	0	53	8

The retail prices are 20 or 30 per cent. higher.

With respect to the export of coal from Bavaria, there are no data on which to form a correct estimate. The only returns which have any bearing on the question are those, already referred to, of the traffic on the Government railways; but in the Table of the goods of all kinds sent out of Bavaria in the year 1865, on those lines (which alone communicate with the countries likely to draw supplies of coal from Bavaria Proper), no separate return is given of the coal, there being but one general statement under the head of "coal, coke, charcoal, turf, &c.," of the total quantity of fuel of all descriptions carried to the frontier for exportation; but that the quantity of coal included in that statement cannot have been very considerable, is evident from the fact that the sum total of the return under that head was only 19,228 tons.

In the absence of any more precise information relative to the import and export trade of Bavaria in coal than is contained in the foregoing statements, it may at any rate be safely assumed that Bavaria is at the present time a coal-importing country; for though she may export to neighbouring States some portion of the coal raised in the Palatinate, and also send to Switzerland or the

Tyrol small quantities of the brown coal of Upper Bavaria, this must form a very inconsiderable part of the whole quantity produced in the country, by far the larger proportion of which is undoubtedly consumed in Bavaria itself, and is altogether insignificant when compared to the large quantities imported into Bavaria from Bohemia, Saxony, Rhenish Prussia.

(Signed) H. P. FENTON.

BELGIUM.

Lord Howard de Walden to Lord Stanley.

My Lord, *Brussels, September* 25, 1866.

As instructed under Lord Clarendon's despatch of the 1st of March, 1866, I have the honour to inclose a report on the coal industry of this country which has been prepared by Mr. Egerton.

I had delayed sending it home being under the expectation of being able to obtain further returns, which are in course of preparation; but I learn they are not likely to be made for some time to come.

I have, &c.

(Signed) HOWARD DE WALDEN AND SEAFORD.

Inclosure.

Mr. Egerton to Lord Howard de Walden.

(Extract.) *Brussels, September* 24, 1866.

I HAVE the honour to inclose the principal statisties of the coal trade of Belgium for the year ended 1865, which I have endeavoured to render as concise as possible, in accordance with your instructions.

Coal Statistics of Belgium up to December 1865.

ON the 31st of December 1865 the number of coal mines in Belgium was 287, thus distributed:—

Provinces.	No. of Coal Mines.			No. of Shafts in work.	Amount of Coal obtained.	Value.
	In work.	Not worked.	Total.			
					Tons.	Francs.
Hainault	87	42	129	203	9,206,058	98,397,000
Liege	65	53	118	89	2,328,911	23,195,741
Namur	21	19	40	31	305,734	2,303,437
Total of Kingdom.	173	114	287	323	11,840,703	123,896,178

The production of these collieries in the two preceding years was as follows:—

Year.	Hainault.	Namur.	Liege.	Total of Kingdom.
	Tons.*	Tons.	Tons.	Tons.
1863	8,101,102	255,667	1,988,561	10,345,330
1864	8,670,372	266,235	2,221,729	11,158,336

The principal operations of the Hainault coal mines in the years 1864 and 1865 are given in the following comparative statement:—

	1864.	1865.	Decrease.	Increase.
Number of hands	60,546	62,461	..	1,915
Average yearly pay per head fr.	719	787	..	68
Amount of wages .. ,,	43,554,900	49,172,550	..	5,617,650
Extraordinary expenses ,,	9,003,400	9,322,600	..	319,200
Do. per ton raised .. ,,	1·04	1·01	00·3	..
Total expenses .. ,,	79,314,150	86,642,600	..	7,328,450
Cost of production per ton ,,	9·15	9·41	..	0·26
Amount of production ,,	8,670,372	9,206,058	..	535,686
Do. per pit in work .. tons	41,287	45,350	..	4,063
Do. per workman .. ,,	143	147	..	4
Total value of coal obtained fr.	88,174,470	98,397,000	..	10,222,530
Market value per ton ,,	10·17	10·69	..	0·52
Number of mines working at a profit	57	59	..	2
Profit of above mines fr.	10,447,965	13,611,400	..	3,163,435
Number of mines working at a loss	28	25	3	..
Loss of above mines.. fr.	1,587,645	1,857,000	..	269,355
Net profit .. .. ,,	8,860,320	11,754,400	..	2,894,080
Net profit per ton .. ,,	1·02	1·28	..	0·26

The following Table gives further details respecting the coal trade in the province of Hainault in 1865, and the part taken by each of the coal-producing districts which it contains:—

	Collieries of		
	Mons.	The Centre.	Charleroi.
Number of hands	27,505	9,849	25,107
Average yearly pay per head .. francs	752	799	821
Total expenses .. .. ,,	36,131,300	15,374,000	35,137,300
Cost price of production per ton ,,	10·08	10·23	8·53
Amount of production .. tons	3,584,598	1,503,160	4,118,300
Market value per ton .. francs	11·05	11·64	10·02
Total value of coal obtained .. ,,	39,613,800	17,492,400	41,290,800
Number of mines working at a profit ..	17	10	32
Profit of above mines .. francs	4,078,000	3,193,000	6,340,400
Number of mines working at a loss ..	12	7	6
Loss of above mines .. .. francs	595,500	1,074,600	186,900
Net profit .. .. .. ,,	3,482,500	2,118,400	6,153,500
Net profit per ton .. .. ,,	0·97	1·40	1·49

* The Belgian ton of 100 kilogrammes weighs 36 lbs. less than the British ton of 1,016 kilogrammes.

The market price of coal in 1865 exceeded that of 1864 by 45 centimes per ton at Mons, 18 centimes per ton in the Centre, and by 72 centimes at Charleroi. The increased price of coal at Charleroi is attributed to the great development of the forges and glass works of that district.

The following are the statistics of the coal production, &c., in the province of Liege for the years 1864 and 1865 :—

	1864.	1865.	Decrease.	Increase.
Number of hands	17,363	17,816	..	453
Amount of wages .. francs	12,301,672	13,934,927	..	1,633,255
Total expenses of working ,,	18,711,946	21,085,054	..	2,373,108
Amount of production tons	2,221,729	2,328,911	..	107,182
Value of production .. francs	20,533,899	23,195,741	..	2,661,842
Number of mines working at a profit	42	44	..	2
Profit of above mines francs	2,344,379	2,761,115	..	416,736
Number of mines working at a loss	26	21	5	..
Loss of above mines.. francs	522,426	650,428	..	132,002
Net profit .. .. ,,	1,821,753	2,110,687	..	288,934

The prices of coal in this province in 1865 are improving, as shown below :—

PRICE PER TON.

Year.	Thin Coal. ("Maigre.")		Coal fitted for Household Use. ("Demi-grasse.")		Bituminous Coal. ("Grasse.")	
	Large.	Small.	Large.	Small.	Large.	Small.
	Frs. c.	Frs. c.	Frs. c.	Frs. c.	Frs. c.	Frs. c.
1864 ..	16 63	8 66	17 51	8 69	18 25	9 49
1865 ..	16 84	9 18	17 34	9 47	17 98	10 21

The following Table gives the coal operations of the province of Namur in 1864 and 1865 :—

	1864.	1865.	Decrease.	Increase.
Number of hands	1,870	2,091	..	221
Amount of wages .. francs	1,158,802	1,488,858	..	330,056
Total expenses .. ,,	1,838,644	2,343,339	..	504,695
Amount of production .. tons	266,235	305,734	..	39,499
Value of production .. francs	1,845,804	2,303,437	..	457,633
Average price per ton .. ,,	6·93	7·53	..	0·60

The exports of coal and coke from Belgium in the last three years are as follows :—

	1863.	1864.	1865.
	Tons.	Tons.	Tons.
Coal	2,890,974	3,328,594	3,568,406
Coke	437,427	458,511	501,649
Total	3,328,401	3,787,105	4,070,055

The destinations of the exports in 1865 were :—

	Coal.	Coke.
	Tons.	Tons.
Zollverein	6,259	24,937
Holland	197,174	1,408
France	3,348,693	474,836
Other countries ..	16,280	468

The imports of coal have increased by 8,383 tons. In 1864 they were 65,562 tons; in 1865, 73,945 tons.

The imports of coke fell from 1,647 tons in 1864 to 1,250 tons in 1865.

BRAZIL.

Mr. Pakenham to Mr. Thornton.

Rio de Janeiro, October 9, 1866.

ACCORDING to reports from Santos, bituminous shale lignite, or brown coal, and true coal exist in the Province of San Paulo; large deposits of shale extending some forty miles are also mentioned as existing between Jacuhaté and Guarantingaita in the valley of the River Parahyba.

Professor Agassiz examined specimens from these deposits, and is said to have recommended the opening out of the same. During the stay of Mr. Consul Burton in the valley of Ribeira de Iguapé, he was shown specimens of lignite or brown coal, and has seen pieces of true coal from the valley of the Tieté. The same gentleman also says that from the analogy between the continents of America and Africa, in which Dr. Livingstone and others found large coal-fields, and from the similarity of geological formation between Brazil and the East part of the United States, he would expect to find a large coal-field fringing the coast from the River Plate to Cape San Roque.

The existence of coal or bituminous shale is also reported in the Province of Pernambuco, and it is said to be easy of shipment; but I understand that from experiments made at Rio, it is pronounced a very inferior article and hardly worth its carriage.

There being no very extensive workings of coal at present in Brazil, though its existence is well known, I think I cannot do better than forward an able Report on the subject by Mr. Nathaniel Plant, of the coal mines on the River Jaguarão, accompanied as it is by numerous specimens;* as also the Report of Professor Agassiz thereon; and that of the late Mr. Ginty, engineer of the Rio Gas Company.

Most information, however, procurable here, treats rather of the existence than of the present working of coal in Brazil.

The price of coal this day, afloat, at Rio de Janeiro is 45*s.* per ton (Cardiff), and Newcastle coal is at about 40*s.* 10*d.*

A Table of the Import of coal into Brazil during 1866, with its price and other particulars, is in course of preparation; but in conformity with the instructions contained in the Earl of Clarendon's despatch of the 12th of March last, I shall not be able to forward it until January 1867.

* These specimens have been deposited in the Geological Museum.

Inclosure 1.

Report on the Coal Mines of the River Jaguarão, in the Province of São Pedro do Rio Grande do Sul, Brazil. By Mr. Nathaniel Plant.

Rio de Janeiro, July 6, 1866.

THE locality of this coal field is at the extreme southern part of the province of Rio Grande do Sul, on the border lands between Brazil and the Republic of the Uruguay, between latitude 31° and 32° and longitude 324° and 325°, in the valley of the River Jaguarão and its tributaries; the Rivers Candiota and Jaguarão-chico covering an area of about 50 miles by 30.

The nearest point to which the coal approaches a port of embarkation is about thirty miles below the coal field, at the mouth of the River Jaguarão; and sailing vessels up to 100 tons burthen carry on an active trade in tallow, hides, and cattle-produce between the town of Jaguarão (a place of about 10,000 inhabitants) and the port of Rio Grande, so that water carriage exists from the Atlantic port almost up to the coal fields; though the idea of constructing a tramway from the city of Rio Grande direct to the coal basin is regarded with more favour than bringing the coal down to the coast by the circuitous bendings of the rivers and lakes, and an engineer (sent for the purpose by Mr. Brunlees) has made a survey of the route, which is nearly level throughout its entire length, and has given into the Brazilian Government plans and the estimate for laying down a single line of tramway.

One of the principal features of this coal field, as far as it has been examined, consists in the great depth of some of the coal beds, and the facilities which it presents, in a long escarpment, for getting the coal by open quarrying; it would require neither deep shafts nor drawing engines, and scarcely one-tenth of the expensive "plant" required to work the coal from most other fields. Here the outcrop presents no less than 65 feet of bituminous coal, exposed along the margin of a river valley, and all the implements required to get the coal will be the miner's pick and blasting powder. The coal would almost fall unaided into the waggons below.

The sedimentary rocks forming the coal basin have an uniform inclination towards the south-west, dipping at an angle of from 10° to 15°, and apparently rest upon the mica-schist and sienitc rocks which surround the valley of the River Jaguarão and its confluents; they occur in the following order of superposition, which the accompanying geological section and specimens will illustrate, viz.—

No. 1. *Sandstone.*—The beds composed of this rock form two ranges of hills, one dividing the waters of the Jaguarão from those of the Candiota, and the other separating the tributaries of the Candiota from those of the Jaguarão-chico. The thickness of the beds varies considerably, being in some parts completely worn away, and in others attaining the depth of upwards of 200 feet. It is highly ferruginous, resembling the "Gres Bigarre" of

Europe; it also contains nodules of an argillaceous peroxide of iron, yielding from 20 to 35 per cent. of metal. (See specimen No. 1 A.)

Immediately below this sandstone is found the first seam of coal.

No. 2. *Coal Shale.*—This shale is very argillaceous amd totally unfit for fuel; it possesses a thickness of 9 feet, and can be seen cropping out at the surface, wherever the superincumbent sandstone has been denuded; it rests upon a bed of sandy ochreous shale.

No. 3. *Sandy Shale.*—This bed has a thickness of 5 feet, and is remarkable for containing nodules, in the form of septaria, of an ochreous oxide of iron, which, together with the ironstone nodules found in sandstone No. 1, may be turned to profitable account in the working of the coal beds. This rock overlies a bed of semi-bituminous coal.

No. 4. *Coal.*—The thickness of this bed is 3 feet; the mineral, although it leaves a high percentage of ash after combustion, may be found useful for smelting the various iron ores found in the interstratifying rocks of the coal beds. It is superincumbent to a bed of white clay or schist.

No. 5. *White fossiliferous Schist.*—This schist, which is of a very argillaceous nature, contains innumerable impressions of fossil plants (perhaps aquatic), the general appearance of which would lead one to conclude that those carboniferous deposits belong to a later geological period than that usually assigned to coal beds of England and the United States, were such a conclusion not confuted by the fossil ferns found in other beds which interstratify the coal strata of the Rio Candiota. Below this is another bed of coal.

No. 6. *Coal.*—This is a bituminous coal of good quality, as the accompanying specimen will testify. It is separated from another body of the same mineral by—

No. 7. *Blue Clay.*—Of an unimportant character, varying in thickness from 1 to 6 inches.

No. 8. *Coal.*—Coal of a highly bituminous nature, and possessing a thickness of 17 feet. It has been used with success as fuel on board several provincial steamers navigating the Lagos dos Patos in the Province of Rio Grande do Sul, and although it left a greater per-centage of ash than Cardiff coal (which can be attributed to the fact of the samples having been taken from near the surface), it served every purpose of a steam fuel.

No. 9. *Blue Clay.*—In every respect similar to No. 7, with the exception of containing vestiges of fossil plants.

No. 10. *Coal.*—This is apparently the lowest bed of coal in the carboniferous deposits of the River Candiota; its thickness is 25 feet. The coal is of a superior quality and leaves less ash than No. 8. It has been used as fuel in a variety of ways with marked success, and has proved itself a valuable steam coal (the coke from this coal is of a better quality than that derived from the Cardiff coal).

The homogeneousness and great thickness of this bed is an important feature in this coal basin; it rests upon No. 11.

No. 11. *Fossiliferous Ironstone Shale.*—The most important deposit, in a scientific point of view, of the whole carboniferous strata, from the fact of its containing organic remains, by which the geological age of the coal beds can be determined.

The fossil plants found in this bed all belong to the same genera as those which characterise the coal deposits of Australia and the United States. Some of the impressions of ferns of this rock have been recognized by Professor Agassiz as belonging to the oldest rocks of the secondary formation; which proves these coal strata to be of the same age as the oldest coal measures of England and the United States. The most abundant fossil plants found in this bed appear to belong to the genera Lepidodendron and Glossopteris. The thickness of the shale has not yet been determined; it is very rich in iron, and will doubtless be worked as an iron ore when the coal mines are opened.

No. 12. *Sandstone.*—Differs but little from No. 1.

No. 13. *Limestone.*—This is apparently the next rock in succession; it is very pure, and besides its general utility as calcined lime, it will prove an invaluable flux in smelting the iron ores. Its thickness and extent has not been ascertained; in all probability it lies on—

No. 14. *Mica-schist,* which together with sienite forms the hills surrounding the coal basin of the valley of the River Jaguarão. It is sometimes found overlying the following—

No. 15. *Metalliferous Limestone,* which appears to exist in some of the hollows between the sienitic hills with the mica-schist resting upon it. The name has been given to it from its containing an abundance of sulphuret of iron in the form of thin veins and isolated crystals.

The whole of the accompanying rocks have been collected in the valley of the River Candiota, where they may be seen occurring in the same order of superposition as arranged in the collection.

The Brazilian Government import yearly upwards of 200,000 tons of coal for gas and steam purposes at about 45*s.* per ton, but it has been estimated that when the Candiota mines are opened, they will be able to supply themselves with coal at less than half that price.

The coal has been reported on by Mr. Ginty, Director of the Rio Gasworks, and also by Professor Agassiz, copies of whose reports I inclose.

(Signed) NATHANIEL PLANT.

Inclosure 2.

Report by Professor Agassiz on Coal from Candiota.

Dear Sir, *Rio, June* 18, 1865.

I HAVE not yet returned my thanks for the fine specimens you have presented to me; though ever since I saw them I have looked for a moment's leisure to do so.

However, this gives me an opportunity of expressing a more mature opinion concerning their geological age, which I am glad to have an opportunity of recording, especially since the examination I have made of them has satisfied me of the correctness of some views concerning the fossils of the oldest geological formation in which I had little confidence. That these organic remains all belong to the carboniferous period is unquestionable, and it is the affinity with the characteristic fossils of Europe which particularly interests and in a measure surprises me. Had the whole collection been made in Pennsylvania, I would not more decidedly have recognized its carboniferous characteristic, down to the rocks underlying and overlying the fossiliferous beds; and the photographs you have shown me of the localities leave no doubt of the great extent and value of the coal-beds proper of the River Candiota, whilst the coal itself may fairly be compared to the best in the market, judging from the specimens you have shown me and those I owe to your kindness.

As to the coal of the Falkland Islands, I can only compare it to the anthracite of Mansfield, in Massachusetts, and the adjoining deposits in Rhode Island; though it does not appear quite so pure as the best anthracite of the United States: but this is an impression derived from surface specimens gathered at random.

With my best wishes, &c.

(Signed) L. AGASSIZ.

N. Plant, Esq.,
&c. &c. &c.

Inclosure 3.

Report on the Candiota Coal, by Mr. Ginty, Engineer-in-chief of the Rio de Janiero Gas Works.

Dear Sir,

I HAVE received and examined your samples of Brazilian coal from Candiota with great interest, and I am glad to be able to congratulate you on its really good quality. The samples you sent me were too small for complete and satisfactory analysis in the apparatus at my disposal. I found also that the samples varied a good deal in appearance and quality. This has arisen, no doubt, from their having been obtained from various positions in the nearly perpendicular face of the immense stratum, and from variable periods of exposure; as, owing to the crumbling away or disintegration of pieces under the incessant action of the weather, these samples may have been exposed for periods varyiug from each other as seconds do from centuries.

The Candiota coal resembles the Newcastle steam coal (which comes to this market at least) very much in structure, clearage, and general appearances; nor does it differ very much from Newcastle coal in its useful property, except that it contains more than double the ash, which is detrimental to its heating powers. But this objection is likely enough to disappear altogether in samples from the deeper parts of the mine.

The coke from the Candiota coal is, however, very different in appearance from that of the Newcastle coal, and resembles the coke of (what is sold here as) Cardiff coal, in its silvery coloured laminations.

Some of this Candiota coal, however—especially that of the lower seam—is very friable, and is evidently what is called caking coal—that is, it boils or becomes molten during carbonization. However, all the qualities of the coke from the Candiota coal are very good.

As you say the dip or inclination of the seam or strata of this Candiota coal is five degrees from the plane of the horizon, I think it most reasonable to presume that a much finer, more compact, and equable quality of coal may be calculated upon at lower depths. Five degrees is a gradient of 1 in 11·4, or 8·77 per cent., or 462 feet per mile. Thus in such an immense field as you have described to me, there is ample margin for obtaining other than surface coal, which, for obvious reasons in Brazil as elsewhere, cannot be as pure, as compact, or as uniform in quality as that attained at great depths. I shall watch the prosecution of your explorations in this direction with great interest.

The following are the results of my examinations, as far as they went, on the Candiota coal; the samples of Newcastle, Cardiff, and Wigan cannel, with which it is compared below, having been tried at the same time in the same apparatus:—

	Specific gravity. Water, 1,000.	Per cent. Coke.	Cubic feet Gas, per ton.	Illumination power in Standard Candles.
Candiota coals, mean of three qualities	1,240	63	6,900	5·00
Ditto, lower seam ..	1,230	60	8,198	5·80
Newcastle	1,250	62	..	..
Cardiff	1,275	80	..	..
Gas, or cannel coal ..	1,240	62	9,600	20·50

From the appearance of the lower seam I do not despair of your finding a good gas-coal in the Candiota district, and thu freeing the Brazilian Gas Company from the fearful tax they have to pay in the shape of freights from England, amounting to between 200 and 300 per cent. on the value of the *materia prima*.

I remain, &c.

N. Plant, Esq., &c. &c. &c.

(Signed) W. G. GINTY.

FRANCE.

Report on the Coal Production and the Coal Trade of France in 1864-65.

The annexed Tables show the quantity contributed by each mine to the total production of each year, specifying the various qualities of the coal. They show also the amount of imports and exports in each year, and indicate the ratio in which France draws her foreign supplies of coal from Great Britain.

The general results presented by these Tables are as follows:—

Production.—In 1864 the total production was 112,426,337 quintaux métriques, or 11,061,948 English statute tons; in 1865 it was 114,815,778 quintaux métriques, or 11,297,052 tons, showing an excess of 235,104 tons over the previous year.

Imports.—In 1864 the imports amounted to 66,330,500 quintaux métriques, or 6,526,447 tons; in 1865, to 72,243,927 quintaux métriques, or 7,108,286 tons, showing an increase of 581,839 tons. Of these imports, 13,263,800 quintaux métriques, or 1,305,063 tons, were drawn from Great Britain in 1864, and 14,789,760 quintaux métriques, or 1,455,206 tons, in 1865, showing an increase in the latter year of 150,143 tons.

Exports.—In 1864 the exports amounted to 3,428,600 quintaux métriques, or 337,349 tons; in 1865, to 3,406,000 quintaux métriques, or 335,126 tons, showing a decrease of 2,223 tons.

The increase in the production of coal, the increase in its importation, and the decrease in its exportation, all point to one result—that more coal is being consumed in France. The increased consumption of coal indicates an increased activity of manufacturing industry—a result which is fully borne out by the returns illustrating the remarkable growth of the French export trade in manufactured articles, the details of which are given in a separate Report.

The statistics given in this Report are drawn from the latest returns compiled by the Imperial Ministry of Agriculture, Commerce, and Public Works.

(Signed) JULIAN FANE.

1. Le Tableau suivant indique les noms des bassins exploités en 1864, ainsi que leur production :—

TABLEAU de la Production des Bassins Carbonifères pendant l'année 1864.

Noms des Bassins.	Poids extraits.	Noms des Bassins.	Poids extraits.
	Quint. mét.		Quint. mét.
Valenciennes	31,217,377	Entreverne	64,735
Loire	30,430,534	Langeac	64,540
Alais	11,683,626	La Caunette	48,635
Commentry	7,779,167	La Tour du Pin	44,215
Creusot et Blanzy	6,809,400	Milhau	41,421
Aubin	5,010,097	Terrasson	36,251
Ronchamp	2,054,817	Orange	35,473
Aix	1,922,996	Aubenas	33,566
Brassac	1,735,903	Bourganeuf	33,191
Epinac	1,539,800	Norroy	28,866
Graissessac	1,487,029	Meimac	20,421
La Sarre	1,407,010	Orignac	20,290
Carmeaux	1,125,830	Montélimart	18,902
Basse-Loire	1,062,471	Vagnas	17,424
Decize	1,021,760	Bourg-Lastic	15,589
Le Maine	1,004,920	Douvres	14,800
Le Drac	892,320	Champagnac	13,757
Vouvant et Chantonnay	530,150	Simeyrols	11,950
St. Eloy	338,381	Oisans	11,444
Ste. Foy l'Argentière	284,781	Barjac	11,309
La Chapelle-sous-Dun	273,000	St. Perdoux	11,080
Buxière-la-Grue	253,079	Méthamis	9,869
Ahun	221,287	Trévezel	6,680
Bert	205,104	Villé	5,660
Hardinghen	189,450	Forges	5,200
Fins et Noyant	169,230	Gemonval	5,100
Maurienne-Tarentaise et Briançon	149,639	La Cadière	3,000
Littry	145,807	Célas	3,000
St. Pierre-la-Cour	145,580	Argentat	2,650
Bagnols	144,527	St. Hypolite	2,100
Rodez	117,405	Banc-Rouge	1,798
Gouhenans	99,838	Chambéry	945
Bouxwiller	95,208	Lobsann	769
Manosque	84,098	Hantelly	542
Roanne	81,593	Total de la production	112,426,337
Fréjus	67,950		

Les 112,426,337 quintaux métriques de houille produite se répartissent d'ailleurs de la manière suivante entre les six variétés que l'Administration Française est dans l'habitude de considérer séparément :

	Quint. mét.
Anthracite	8,804,001
Houille dure à courte flamme	17,629,133
Houille grasse maréchale	7,427,649
Houille grasse à longue flamme	55,055,922
Houille maigre à longue flamme	20,866,894
Lignite, stipite, &c.	2,642,738
Total, éga	112,426,337

2. Il a été importé en France pendant l'année 1864, 66,330,500 quintaux métriques de houille, et il en a été exporté 3,428,600 quintaux métriques.

3. La Grande Bretagne a importé en France en 1864, 13,263,800 quintaux métriques de houille, tandis que l'importation de tous les autres pays s'est élevée à 53,066,700 quintaux métriques.

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1. Le Tableau suivant indique les noms des bassins exploités en 1865, ainsi que leur production:—

TABLEAU de la Production des Bassins Carbonifères pendant l'année 1865.

Noms des Bassins.	Poids extraits.	Noms des Bassins.	Poids extraits.
	Quint. mét.		Quint. mét.
Valenciennes	33,600,168	Bourganeuf	53,260
Loire	29,614,461	Langeac	46,500
Alais	12,292,575	La Caunette	45,635
Commentry	7,388,366	La Cour du Pin ..	39,170
Creusot et Blanzy ..	7,379,500	Milhau	39,000
Aubin	4,455,406	Aubinas	38,630
Ronchamp	2,285,291	Terrasson	36,595
Aix	1,787,053	Norroy	36,000
La Sarre	1,659,000	Orange	33,948
Brassac	1,586,001	Entreverne	28,249
Epinac	1,561,300	Vagnas	23,536
Graissessac	1,397,696	Hardinghen	21,611
Decize	1,341,791	Orignac	20,000
Carmeaux	1,156,560	Meimac	19,500
Le Maine	1,012,012	Barjac	18,240
Basse-Loire	985,309	Simeyrols	17,770
Le Drac	755,602	Champagnac	17,285
Ahun	740,380	St. Perdoux	15,446
Vouvant et Chantonnay ..	428,386	Montélimart	15,318
St. Eloy	323,607	Douvres	14,360
Bert	323,100	Bourg-Lastic	12,492
Ste. Foy l'Argentière ..	314,036	Trévezel	10,710
Buxière-la-Grue . ..	243,744	Méthamis	9,838
La Chapelle-sous-Dun ..	234,100	La Cadière	9,200
Maurienne-Tarentaise et Briançon	150,698	Oisans	8,036
Littry	141,500	Villé	5,040
Bagnols	130,256	Célas	4,050
St. Pierre-la-Cour ..	127,184	Forges	2,600
Rodez	100,381	Argentat	1,550
Gouhenans	97,500	Gémonval	1,500
Fins et Noyant . ..	97,000	Banc-Rouge	1,162
Manosque	95,524	Lobsann	500
Bouxvillers	94,600	Chambéry	60
Roanne	90,200	Total	114,815,778
Fréjus	78,700		

Les 114,815,778 quintaux métriques de houille produite se répartissent d'ailleurs de la manière suivante entre les six variétés que l'Administration Française est dans l'habitude de considérer séparément:

	Quint. mét.
Anthracite	8,146,163
Houille dure à courte flamme	18,874,738
Houille grasse maréchale	4,655,773
Houille grasse à longue flamme	58,408,034
Houille maigre à longue flamme	22,291,590
Lignite, stipite, &c.	2,439,490
Total, égal	**114,815,778**

2. Il a été importé en France pendant l'année 1865, 72,243,924 quintaux métriques de houille, et il en a été exporté 3,406,000 quintaux métriques.

3. La Grande Bretagne a importé en France en 1865, 14,789,760 quintaux métriques de houille, tandis que l'importation de tous les autres pays s'est élevée à 57,454,164 quintaux métriques.

PRUSSIA.

Extract of Mr. Lowther's Commercial Report, dated Berlin, July 28, 1866.

Production of Coal in Prussia.

PRUSSIA is rich in mineral fuel, especially in very good coals, for it produces also brown coal ("Bovey"), which, though inferior in its power of heating, is nevertheless useful for many purposes. Coals are, with unimportant exceptions, found in extensive layers in basins containing many strata of fossil coal. The coal pits of the greatest importance are in the Rhenish Provinces and Westphalia, in the western parts of Prussia, as well as in the Province of Silesia. Brown coal appears in layers near the surface, in numerous great and small troughs diffused over, not only the above-named provinces, but also others, particularly Saxony and Brandenburg.

A map published in 1863 on the production, consumption, and circulation of mineral fuel in Prussia during 1862, showed the distribution of the production, the quantity of coal produced from the single basins and districts of the mines.

Among the coal basins there are three of considerable importance, which, being of considerable extent, are a source of great wealth in coal, namely, the basins of Upper Silesia, of the Ruhr, and the Saar. Two other basins, near Waldenburg, in Lower Silesia, and near Aix-la-Chapelle, in the Rhenish Province, are less considerable, but, though yielding less, are still of importance. The basins of Wellin and Löbejün, in the Province of Saxony, and of Ibbenbüren, in the northern part of the Province of Westphalia, are of less extent. Besides these, belonging to the fossil formation, narrow layers of coal, in some places in strata of a later date of mountains, form an object of inconsiderable importance in mining near Minden, on the Weser, in Wealdenthon, and near Löwenburg, in Lower Silesia. The layers of brown coal, which are of most importance, are in the eastern part of the country, namely, in the Provinces of Saxony and Brandenburg, where coals are expensive, owing to the distance they have to be transported.

The coal pits of the River Ruhr extend over ten miles* in length on the Lower Rhine, and in Westphalia a very active working of the mines, and a marked activity of commerce, are on the point of being developed. This country supplies almost half of the coal produce (favoured by its situation on the navigable

* A Prussian mile is equal to 24,000 Prussian feet; nearly 4⅔ English miles.

Rivers Ruhr and Rhine, and aided by the railway, which is daily extending itself), and it sends supplies to Alsatia and Switzerland, to Bavaria and Thuringia, to Berlin, and the seaports of the Hanseatic towns, as well as to Holland. It has been found that there were 65 strata more than 20 inches deep which were worth cultivating, the united thickness of which gives of pure coal 210 feet, and it has been calculated that the present annual produce from it may be 8,000,000 metrical tonnen (at 20 Zollverein centners), which will last during a period of more than 5,000 years.

The Upper Silesian coal pit, which yields not quite one-fourth of the Prussian coal produce, is limited in its supply, in consequence of its situation between Austria and the Kingdom of Poland, and more particularly on account of the supplies it has to give to the zinc and iron foundries in the neighbourhood. The purity and solidity of the coal, with the extremely low prices for transport, allow, nevertheless, the transmission of Upper Silesian coal to distances, particularly to Berlin and Magdeburg, where it competes with the Westphalian (Ruhr), the Saxon (Zwickau), and the English coal. The expansion to which the strata of the mines in those parts is liable is unknown, as the coal mountains, extending over five miles of length and three of breadth, are covered towards the north and south with later strata, and because in the parts opened there are many large coal fields that can be worked near the surface, and consequently there has been little wish till now to look for coal under the later formations. The depth of coal which might be got at, without taking into account the strata less than 30 inches thick, amounts to 350 feet, and extends on several layers to the thickness of 30 feet. The coals at hand in accessible depths cannot well be computed, on account of the uncertainty of the limits of the coal pit, but may, with the present demand, be called inexhaustible.

The coal pit of the River Saar, situated in the extreme south-western angle of the Rhenish Province, and which extends its productive strata in a small degree to Bavarian and French territory, offers about the sixth part of the coal produce of Prussia.

The active working of the pits exclusively at the expense of the Government has opened 150 to 200 layers of 330 to 380 feet of pure coal, of which a depth of 250 to 290 feet is taken.

The supply extends into the Zollverein, competing with the Ruhr pit, to the Middle and Upper Rhenish country, to the Moselle, Lahn, Main, and Neckar, as far as Nurnberg and Munich, and Switzerland, to eastern parts of France, Alsatia, the Upper Marn country, and to Paris.

The quantity of coal to be obtained by the working of mines in attainable depths (reckoning 500 centners = 3,333 feet) would suffice, according to calculations which have been made, for the supply of 3,000 years, and the annual supply would be of about 2,500,000 metrical tons.

The coal pit near Waldenburg, in Lower Silesia, gives about

one-sixteenth of the whole production of Prussia, and is tolerably extended; but it is only near Waldenburg that the greater number of strata are worked. The situation, in a mountainous country near the Bohemian frontier, is but little favourable to the development of mining. The sale is directed principally to the neighbouring Prussian provinces, and, in a small degree to Bohemia and the Kingdom of Saxony.

The pits of Aix-la-Chapelle, divided in two separate troughs on the Rivers Inde and Worm, are of less extent and contain less coal strata than the above-named pits. They give nearly the twentieth part of the Prussian coal produce. The supply of these pits is very limited, on the one hand by the Ruhr, on the other by Belgium, and are partly used for supplying the local industry as developed in forge works and other factories, and partly in supplying larger demands for household purposes.

According to a Report made upon the subject of coal, the total annual amount of coal and brown coal produced in Prussia was on an average as follows:—

	Metrical tonnen.*
In four years, 1838–41..	2,901,713
In five years, 1842–46..	3,817,190
,, 1847–51..	5,027,690
,, 1852–56..	8,571,070
,, 1857–61..	13,037,015
In 1862	16,903,520
In 1863	18,330,779
In 1864	21,197,266

According to the above, the working of the coal pits is in a rapid and apparently continuous increase. The year 1864 shows a weight 2½ per cent. greater than the middle of 1852–56, and four times that of the middle of 1847–51, and seven times the medium of 1838–41. A period of nearly eight years has, according to this, sufficed in the last ten years to double, and of nearly fifteen years to quadruple, the produce.

The following comparison of the three years 1860, 1862, and 1864, shows the development in the single coal pits of the working of coal mines, as well as in the single Government: the result is given as to brown coal, as well as other coal ("steinkohlen"):—

* One metrical ton equal to 20 Zollverein centners.

Produce of Mineral Fuel in Prussia.

Coal Pits, Government District.	Amount of Quantity produced (including the consumption at the Pits). Metrical ton of 20 Zoll. centners.			Value at place of origin in Prussian thalers, of 3*s.*		
	1864.	1862.	1860.	1864.	1862.	1860.
(A.) Coal.						
1. Upper Silesia, Appeln ...	3,859,486	3,072,698	2,365,600	4,603,381	3,444,197	3,069,416
2. Waldenburg, Breslau, Liegnitz	1,063,931	892,282	741,900	1,970,294	1,679,909	1,533,350
3. Wellin & Löbgon, Merseburg	65,889	55,671	54,050	191,964	164,674	152,134
4. Minden Minden... ...	10,473	9,712	10,000	30,821	28,739	29,273
5. Ibbenbühren, Münster...	98,255	103,845	79,800	242,170	275,350	240,241
6. Ruhr, Arensberg, Dusseldorf...	8,037,705	6,128,791	4,276,200	12,088,348	9,706,095	9,082,160
7. Aix-la-Chapelle	751,257	687,651	632,000	1,849,931	1,767,942	1,734,698
8. Saar, Treves	2,660,749	2,137,741	2,019,500	6,563,424	5,498,147	5,457,060
Total of (A) Coal ...	16,547,745	13,088,391	10,179,050	27,540,333	22,565,053	21,298,332
(B.) Brown Coal.						
1. Appeln	1,307	2,562	2,670	810	1,833	1,265
2. Breslau	22,198	23,424	13,730	18,703	19,109	12,863
3. Liegnitz	189,180	132,961	103,930	175,629	112,792	89,931
4. Posen	4,968	5,300	2,840	4,338	3,835	2,241
5. Bromberg and Marienwerder	5,520	6,959	3,600	4,294	5,416	3,076
6. Frankfort	515,697	403,589	267,870	442,878	328,380	246,060
7. Potsdam	183,058	170,362	129,250	211,102	184,811	109,278
8. Stettin	8,210	8,220	...	8,526	1,123	...
9. Magdeburg	1,368,922	1,198,544	1,059,200	1,466,213	1,162,898	1,152,232
10. Merseburg	2,182,231	1,665,492	1,423,130	1,803,806	1,378,016	1,234,366
11. Minden	1,349	1,117	870	514	643	736
12. Cologne, Dusseldorf, Aix-la-Chapelle, and Coblenz	166,887	64,219	187,255	114,973	133,544	119,810
Total (B) Brown Coal ...	4,649,527	3,815,129	3,194,640	4,251,786	3,332,400	2,971,858
Total sum	21,197,272	16,903,520	13,373,690	31,792,119	25,897,453	24,270,190

The western parts of Prussia are so richly furnished with mineral fuels, particularly with coals, that they do not depend for their supply on foreign countries, but rather give up a great part of their coal produce to the latter; the eastern provinces of the State have to look, to no small extent, to the import of foreign coal, partly from Westphalia, partly from foreign countries. This is particularly the case with countries on the Baltic, which receive by sea coal cheaper from British harbours than from the distant inland mining districts. The provinces of Saxony and Brandenburg, particularly when near the watercourses of the Elbe, Havel, and Oder, receive important quantities of British coal and Bohemian brown coal, as well as great imports of coals by railway from the pits of Zwickau and Chemnitz in the neighbouring Kingdom of Saxony; these pits are improving daily in extent and value.

As, in general, accounts are only kept of the export and import of wares on the frontiers of Prussia at the places at which the frontier is also the frontier of the Zollverein, there is a lack of exact information upon which correct statistical lists may be formed of the consumption of fuel in Prussia, as well as of the produce, export and import. In order to obtain accurate results, one would have to take into consideration the whole extent of the

Zollverein, and this, in fact, took place in 1860, when the Central Bureau of the Verein at Berlin published abstracts of the produce of the mines, smelting-houses, and salines. There is, however, an incompleteness in the account, inasmuch as mention is only made in the export and import lists of the Verein of coal, and not of brown coal.

The results of the produce of the years 1863 and 1864, as regards Prussia, are put at 17,000,000 to 19,500,000 metrical tons in the following Table, in which is also given the consumption of coal from 1860 to 1864 in the territory of the Zollverein, in metrical tons (= 20 Zoll. centner):—

	1860.	1861.	1862.	1863.	1864.
	Met. tons.	Met. tons.	Met. tons.	Met. tons.	Met. tons.
Produce	12,347,828	14,133,048	15,576,278	17,000,000	19,500,000
Import	755,082	871,299	894,893	925,900	733,228
Total	13,102,910	15,004,347	16,471,171	17,925,900	20,233,228
Of which exported	1,810,472	2,074,906	2,107,384	2,078,890	2,233,228
Remaining for consumption...	11,292,438	12,929,441	14,363,787	15,847,010	18,000,000
Of the imports there were probably of British origin	732,113	843,360	864,390	903,557	643,088

According to these figures the consumption of coal in the Zollverein was in course of exceeding the produce. It was estimated that for 1865, the consumption would be above 20,000,000.

The import was, with the exception of unimportant quantities from Austria and Belgium, of British origin. The following Tables, taken from printed commercial information, give nearer explanations of the distribution of the import and export to the frontier tracts and States through and to which consignments were sent.

The development of the consumption for a longer period of years in Prussia itself is given in a statistical work published on the mining industry, where the produce is shown of coal and brown coal during the years 1838 to 1861 in Prussia, as well as the import and export of coal to and from States not belonging to the Zollverein across the Prussian frontier. According to this account, in the middle of the fourth and fifth years the amount for the Prussian kingdom was:—

	1838-41.	1842-46.	1847-51.	1851-56.	1857-61.
	Met. tons.	Met. tons.	Met. tons.	Met. tons.	Met. tons.
Total production of coal and brown coal	2,901,713	3,817,190	5,027,690	8,571,070	13,037,015
Import of coal...	150,963	242,534	380,031	490,115	658,388
Total	3,052,676	4,059,724	5,416,721	9,061,185	13,695,403
Export of coal...	377,049	385,019	467,285	945,744	1,649,386
Remaining for consumption...	2,675,627	3,674,705	4,949,436	8,115,441	12,046,017

And further for the following years:—

	1862.	1863.	1864.
	Metrical tons.	Metrical tons.	Metrical tons.
Total produce of coal and brown coal ..	16,903,520	18,330,779	21,197,266
Import of coal	684,832	709,983	Not given.
Total	17,588,352	19,040,762	..
Export of coal	1,866,205	1,880,927	Not given.
Remaining for consumption ..	15,722,147	17,159,835	..

These figures appear for the single years somewhat higher than the figures quoted above, which are reckoned for the whole territory of the Zollverein; as in the first brown coal is included, and the Prussian State participated particularly in the import and export of coal. As the trade with the other States of the Zollverein was not taken into consideration, these figures cannot be considered as precise, and are only so far of importance as showing the development of the traffic in comparison to the internal production.

More careful inquiries have been instituted as to the transport of coals which pass in and out over the Prussian frontier, and also over the frontier of other States of the Zollverein. These inquiries were made for the purpose of ascertaining the state of the trade in mineral fuel for the years 1860 and 1862, and they form the foundation of the statistical statements which are contained in the explanations of the abovenamed map. According to this calculation the consumption in mineral fuel in Prussia was as follows:

	1862.	1860.
	Metrical tons.	Metrical tons.
Produce	16,903,520	13,373,690
Import	942,680	837,400
Total	17,846,200	14,211,090
Export	3,128,252	2,603,790
Remaining for consumption ..	14,717,948	11,607,300

During the two years from 1860 to 1862 the consumption in the kingdom increased 3,110,648 metrical tons of coal and brown coal, or 26·8 per cent., whilst at the same time the produce rose 26·4 per cent., the import 12·6 per cent., the export 20·2 per cent.

During the two years from 1862 to 1864, according to the above calculation, the produce of coal and brown coal in Prussia increased from 16,900,000 to 21,200,000 metrical tons; that is, more than 4,300,000 metrical tons, or 25·4 per cent. Supposing that the import and export increased, then the consumption of mineral fuel in Prussia for the year 1864 would at least amount to 25 per cent. higher than for 1862, and accordingly, when taken at a low average of $1\frac{1}{4}$, 14,717,948, or roundly, 18,500,000 metrical tons, and with the same annual gradation for the year 1865 to 21,000,000 metrical tons.

It has been shown above that the British coal is of the greatest importance as regards the import. As regards Prussia in particular, the calculation with regard to the import of coal and brown coal is as follows:—

	1862.		1860.	
	Met. tons.	Per cent.	Met. tons.	Per cent.
Great Britain	705,590	75	619,400	74
Austria	145,517	15	145,510	17
Kingdom of Saxony	83,107	9	50,000	6
Belgium, Holland, Hanover & Lippe	8,466	1	22,490	3
Total	942,680	100	837,400	100

In 1863 the Danish blockade interrupted for a time the importation of British coal, but this can only be taken as a passing accident, as they have since attained their former position in the markets, where they had at that time to be replaced by the inland produce. But where this is not the case, the general increase of the demand for coals, for the various purposes of active trades of town and country, offers a rich compensation for the damage suffered in the supply.

The coal traffic on railways which are near coal pits shows a remarkable increase since lower freights have been fixed for transports to greater distances. The whole quantity of coals and coke expedited was as follows:—

	1864.	1862.	Increase.	
	Met. tons.	Met. tons.	Met. tons.	Per cent.
By Cologne-Minden Railway ..	3,314,744	2,787,641	527,103	18·9
By Bergisch-Märkisch	2,143,452	1,641,482	501,970	30·6
On the two railways of the Ruhr-Becken	5,458,196	4,429,123	1,029,073	23·2
By Upper Silesian Railway	1,176,911	1,044,160	132,751	12·7
By Breslau-Waldenburg-Liegnitz ..	575,736	511,929	63,707	12·5
Saarbruck-Treves	1,929,404	1,584,737	344,667	21·7
Berlin-Breslau line	537,720	392,789	144,931	36·7

The year 1865 promised an equally great increase, as during the summer months, which formerly used to show a diminution in the coal trade, the means of transport were strained to the utmost in order to forward coals which were ordered at the pits. A continued increase in the demand for coal may be reckoned upon with certainty for some years, and the numerous railways in course of construction will open great and important districts for supply, which until now were only furnished with vegetable fuel, and that at high prices.

It is difficult, under present circumstances, to state whether the increasing demand for coal depends upon the demand for households or the demands from various trades. At any rate both means of consumption are of importance, because in the one as well as in the other a continuous and increasing demand is liable to extension. The households, which, particularly in the eastern part of Prussia and in the districts of most of the other German

States, are arranged for the employment of wood and turf in the kitchen, and for the heating of rooms, will only by degrees change their arrangements so as to use coal or brown coal in their arrangements.

The beet-root sugar factories, distilleries, and breweries, mills, brick-kilns, lime-kilns, &c., require from year to year increased supplies of coals. In the towns, too, besides the manufacturing industry and the metallurgic trades and manufactories for making machinery, which require a large amount of coal, large supplies are required for the preparation of gas, and in a less degree for the use of waterworks in towns. Gas establishments by degrees will increase in small places accordingly as the importation of coal is facilitated, and the supply of water to towns and the draining of them is now beginning to be considered as indispensable. The great consumers of coals are the railways and the steamers on navigable rivers and harbours. The Baltic ports will always offer secure markets for British coal on account of the great distance of the inland coal pits.

Tables showing the import and export of coal in the States of the Zollverein in 1862 and 1863 are herewith inclosed.

Import and Export of Coal in States of the Zollverein in 1862.

Import and Export over the Frontier, towards	In whole Zollverein.			Prussia.		Besides Luxemburg.		Bavaria.	
	Total Import.	For free Traffic.	Amount of Duty levied.	Total Import.	For free Traffic.	Total Import.	For free Traffic.	Total Import.	For free Traffic.
A. Import.	Centners.	Centners.	Thalers.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.
Russia and Poland ..	262	262	..	262	262	..	..	..	..
Austria	45	..	..	..	..	..	..	45	..
Ditto for inter-traffic ..	1,015,417	1,015,417	..	46,547	46,547	..	..	833,061	833,061
France	1,137,161	1,784	..	955	955	1,136,184	807	22	22
Belgium	393,648	181,281	..	92,090	92,090	301,558	89,190	..	..
*Netherlands.. ..	71,452	71,452	..	71,452	71,452	..	..	..	..
*Bremen	105	111	..	..	8	..	..	..	..
*Hamburgh	3,611,332	147	..	3,611,191	6	..	..	20	20
*Mecklenburg ..	1,287	1,287	..	1,270	1,270	..	..	..	..
*North Sea	8	8	..	..	..	..	..	..	..
*Baltic	10,506,667	1,017	..	10,506,667	1,017	..	..	..	..
*Geestemünde ..	14	..	..	..	..	..	..	..	..
Total	16,737,398	1,272,766	10,723	14,330,434	213,608	1,437,742	89,997	833,148	833,103
Further, at 1 to ⅓ sgr. ..	..	13,528,172	150,313	..	13,483,037	..	..	..	..
*Free	3,096,923	3,096,923	..	..	..	..	..	..	..
Total	19,834,321	17,897,861	161,036	..	13,696,645	..	..	..	..
B. Export.									
Russia and Poland ..	1,597,763	1,014,891	..	1,597,763	1,014,891	..	..	..	..
Austria	4,480,616	4,480,299	..	3,623,087	3,623,087	..	..	298,664	298,347
Switzerland	3,300	3,300	..	..	..	..	..	2,150	2,150
France	23,314,536	23,102,168	..	20,165,350	20,165,350	336,436	154,068	2,782,750	2,782,750
Belgium	1,252,433	117,056	..	18,756	18,756	1,233,677	98,300	..	..
Netherlands	12,478,408	12,478,408	..	12,478,351	12,478,351	..	..	..	..
Bremen	804,896	804,860	..	..	..	..	..	..	..
Hamburgh	121,676	121,676	..	..	..	..	..	..	..
Mecklenburg	35,720	17,004	..	35,720	17,004	..	..	..	..
Holstein and Lauenburg	19	19	..	..	..	..	..	..	..
North Sea	1,320	1,320	..	..	..	..	..	..	..
Baltic	7,646	6,678	..	7,646	6,678	..	..	..	..
Total	44,098,333	42,147,679	..	37,926,673	37,324,117	1,600,113	252,368	3,083,564	3,083,247

* These supplies were probably of British origin.

Import and Export over the Frontier, towards	Saxony.		Hanover.		Wurtemberg.		Baden.		Oldenburg.	
	Total Import.	For free Traffic.	Total Import.	For free Traffic.	Total Import.	For free Traffic.	Total Import.	For free Traffic.	Total Import.	For free Traffic.
A. Import.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.
Russia and Poland	..	..	..	..	..	..	..	..	..	..
Austria	..	..	..	..	..	..	..	..	..	..
Ditto for inter-traffic	135,809	135,809	..	..	..	..	..	..	..	..
France	..	..	..	..	..	..	..	..	..	..
Belgium	..	..	..	..	..	..	..	..	..	..
*Netherlands	..	..	..	..	..	..	..	..	..	..
*Bremen	..	..	83	81	..	..	..	..	22	22
*Hamburgh	115	115	6	6	..	..	..	..	..	..
*Mecklenburg	..	..	17	17	..	..	..	..	..	..
*North Sea	..	..	2	2	..	..	..	..	6	6
*Baltic	..	..	..	..	..	..	..	..	..	..
*Geestemünde	..	..	14	..	..	..	..	..	..	..
Total	135,924	135,924	122	106	..	..	..	..	28	28
Further, at 1 to ⅓ sgr.	..	45,135	..	..	..	..	..	..	..	..
*Free	..	..	2,229,553	2,229,553	92	92	308,621	308,621	558,657	558,657
Total	..	181,059	2,229,675	2,229,659	92	92	308,621	308,621	558,685	558,685
B. Export.										
Russia and Poland	..	..	..	..	..	..	..	..	..	..
Austria	558,731	558,731	..	..	134	134	..	..	..	..
Switzerland	..	..	..	..	408	408	742	742	..	..
France	..	..	..	..	..	..	..	..	..	..
Belgium	..	..	..	..	..	..	..	..	..	..
Netherlands	..	..	57	57	..	..	..	..	..	..
Bremen	..	..	804,885	804,849	..	..	..	..	11	11
Hamburgh	..	..	121,676	121,676	..	..	..	..	..	..
Mecklenburg	..	..	..	..	..	..	..	..	..	..
Holstein and Lauenburg	..	..	19	19	..	..	..	..	..	..
North Sea	..	..	1,320	1,320	..	..	..	..	..	..
Baltic	..	..	..	..	..	..	..	..	..	..
Total	558,731	558,731	927,957	927,921	542	542	742	742	11	11

* These supplies were probably of British origin.

Import and Export of Coal in the States of the Zollverein, in 1863.

Import and Export over the Frontier to	In the whole Zollverein.			Prussia.		Besides Luxemburg.		Bavaria.	
	Total Import.	For free Traffic.	Amount of Duty levied.	Total Import.	For free Traffic.	Total Import.	For free Traffic.	Total Import.	For free Traffic.
A. Import.	Centners.	Centners.	Thalers.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.
Russia and Poland ..	235	235	..	235	235	..	..	..	..
Austria	70	..	..	..	..	..	..	70	..
Ditto for inter-traffic ..	877,865	877,865	..	52,995	52,995	..	..	745,074	745,074
Switzerland	1	1	..	..	..	..	..	..	..
France	1,813	1,813	..	117	117	1,689	1,689	7	7
Belgium	1,190,178	182,528	..	76,785	76,785	1,113,393	105,743	..	..
*Netherlands.. ..	48,246	42,246	..	48,246	48,246	..	..	..	..
*Bremen	209	206	..	196	196	..	..	..	..
*Hamburgh	3,447,138	9,795	..	3,447,084	9,741	..	..	..	..
*Mecklenburg ..	4,647	4,646	..	4,647	4,646	..	..	..	..
*Holstein and Lauenburg	3	3	..	..	..	..	..	..	..
*Baltic	11,501,072	20,594	..	11,501,072	20,594	..	..	..	..
Total	17,071,477	1,145,932	11,169	15,131,377	213,555	1,115,082	107,432	745,151	745,081
Besides at ½ sgr. ..	208	14,314,829	159,053	..	14,286,109	..	..	208	208
*Free	3,069,829	3,057,231	..	..	..	..	..	..	..
Total	20,141,514	18,517,992	170,222	..	14,499,664	..	..	745,359	745,289
B. Export.									
Russia and Poland ..	1,523,386	1,101,305	..	1,523,386	1,101,305	..	..	..	..
Austria	5,160,466	5,148,271	..	4,237,164	4,237,164	..	..	250,390	238,195
Switzerland	195,399	195,399	..	..	..	..	..	280	280
France	22,735,142	21,727,492	..	19,396,576	19,396,576	1,204,985	197,335	2,133,581	2,133,581
Belgium	182,382	182,382	..	3,390	3,390	178,992	178,992	..	..
Netherlands	12,848,985	12,848,984	..	12,848,890	12,848,890	..	..	..	..
Bremen	110,597	110,597	..	..	..	..	..	..	..
Hamburgh	221,582	221,582	..	446	446	..	..	..	..
Mecklenburg	107,696	29,106	..	107,696	29,106	..	..	..	..
North Sea	11,000	11,000	..	..	..	..	..	..	..
Baltic	18,493	1,674	..	18,493	1,674	..	..	..	..
Total	43,115,128	41,577,792	..	38,136,041	37,618,551	1,383,977	376,327	2,384,251	2,372,056

* These supplies were probably of British origin.

Import and Export over the Frontier to	Saxony.		Hanover.		Wurtemberg.		Baden.		Oldenburg.	
	Total Import.	For free Traffic.	Total Import.	For free Traffic.	Total Import.	Free from Traffic.	Total Import.	For free Traffic.	Total Import.	For free Traffic.
A. Import.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.	Centners.
Russia and Poland	..	..	..	..	..	..	..	..	..	..
Austria	..	..	..	..	..	..	..	..	..	..
Ditto for inter-traffic	79,796	79,796	..	..	..	..	..	..	..	..
Switzerland	..	..	..	..	..	..	..	..	..	..
France	..	..	..	..	1	1	..	..	..	..
Belgium	..	..	..	..	..	..	..	..	..	..
*Netherlands	..	..	..	..	..	..	..	..	..	..
*Bremen	..	..	..	..	..	..	..	..	..	..
*Hamburgh	..	..	11	8	..	..	..	..	..	..
*Mecklenburg	..	..	54	54	..	..	..	..	2	2
*Holstein and Lauenburg ..	..	..	..	..	..	..	..	..	..	..
*Baltic	..	..	3	3	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..
Total	79,796	79,796	68	65	1	1	..	..	2	2
Besides at ½ sgr.	..	28,512	..	..	..	..	..	..	..	..
*Free	..	..	2,339,254	2,339,251	..	..	142,194	129,599	588,381	588,381
Total	..	108,308	2,339,322	2,339,316	..	..	142,194	129,599	588,383	588,383
B. Export.										
Russia and Poland	..	..	..	..	..	..	..	..	..	..
Austria	671,943	671,943	..	..	969	969	..	..	..	..
Switzerland	..	..	..	..	3,700	3,700	191,419	191,419	..	..
France	..	..	..	..	..	..	..	..	..	..
Belgium	..	..	..	..	..	..	..	..	..	..
Netherlands	..	..	95	94	..	..	..	..	..	..
Bremen	..	..	110,476	110,476	..	..	..	..	121	121
Hamburgh	..	..	221,136	221,136	..	..	..	..	..	..
Mecklenburg	..	..	..	..	..	..	..	..	..	..
North Sea	..	..	11,000	11,000	..	..	..	..	..	..
Baltic	..	..	..	..	..	..	..	..	..	..
Total	671,943	671,943	342,707	342,706	4,669	4,669	191,419	191,419	121	121

* These supplies were probably of British origin.

RUSSIA.

Mr. Drummond to Sir A. Buchanan.

Sir, *St. Petersburgh, December* 25, 1866.

In compliance with the directions conveyed in Lord Clarendon's despatch to you of the 1st of March last, referring to Lord Russell's circular despatch of the 3rd of May, last year, relative to the yearly reports of Secretaries of Embassy on the production of coal in Russia, I have now the honour to inclose herewith answers to His Lordship's queries:—

1. A description of the coal-fields in Russia is contained in a pamphlet which has been kindly communicated to me by General Helmersen, who has lately visited the principal coal districts, and has written a detailed report of the results of his journey. A copy of this pamphlet I have the honour to inclose herewith.

2. No coal is exported.

3. With reference to the imports of coal, I have the honour to inclose a statement communicated to me by Mr. Tœwmer, Director of the Customs Department.

In answer to the inquiries as to whether the true coal-field of the Donetz has risen or fallen in produce since 1845, and to the request for information relative to the amount of true coal produced last year in the coal-pits on the western flank of the Ural Mountains, I have the honour to state that there are two very interesting articles on these coal-beds in General Helmersen's pamphlet referred to above, the substance of which is stated in a memorandum which I inclose herewith.

I also inclose a translation of a paper drawn up by Major-General N. Iwanoff on the quality of the coal which has been found on the banks of the River Tshoosovoy. This document forms part of a work compiled by the St. Petersburg Imperial Mineralogical Society, for its jubilee of the 17th January, 1867.

The map attached to General Helmersen's pamphlet, though small, is, I believe, the best to be obtained at present of the Russian coal-fields.

I have, &c.

(Signed) VICTOR A. W. DRUMMOND.

Inclosure 1.

Pamphlet entitled "Des Gisements de Charbon de Terre en Russie." Par G. de Helmersen, Lieutenant-Général, Membre de l'Academie Impériale des Sciences.

Inclosure 2.

STATEMENT of the quantity and value of Coal imported into Russia for the year 1865, and showing the proportion in which it was drawn from different countries.

Countries.	Quantity in Pouds.	Value in Roubles.
Austria	75,660	3,783
Belgium	19,340	967
England	26,377,680	1,318,884
Germany	—	—
Holland	7,260	363
Italy	26,400	1,320
Prussia	7,990,240	399,512
Turkey	20,240	1,012
France	10,500	525
Total	34,527,320 equal to 554,858¾ English tons.	1,726,366 equal to £222,988 18*s.* 10*d.*

N.B.—I can obtain no authentic information as to the "quantity" of coal imported in 1864, but I am told that from 1863, the annual trade has remained much the same.

(Signed) VICTOR A. W. DRUMMOND.

Inclosure 3.

Memorandum on the Coal Fields of the Donetz, and on the West Flank of the Ural Mountains.

GENERAL HELMERSEN'S article on the coal-beds of the Donetz states, and he has also informed me personally, that there has been lately an increase in the quantity of coal extracted from them. Instead of the yearly average of 3,000,000 to 4,000,000 pouds (or say, 64,285½ tons), the quantity produced last year amounted to 8,000,000 to 9,000,000 pouds (or 93,857 tons).

Mr. Play, who visited the Donetz chain in 1842, reported that there were then only 225 beds in a working condition, whereas there are now 700, and each year the spring rains bring to light others.

In consequence of the development of the steam-navigation on the Black Sea, the Sea of Azof, and the Caspian, the formation of several workshops, and the establishment of the new foundry at Petrovsky, the amount of coal annually produced in the Donetz has risen to 8,000,000 pouds (or 128,571½ tons). This quantity, however, General Helmersen observes, is very insignificant compared with the enormous mass of coal which the Donetz is capable of furnishing. He states that of the 8,000,000 pouds produced as above, 5,000,000 pouds were furnished alone by the [illegible]es of the Groucheoka. There are 400 pits in the [illegible] which the deepest have only a depth of 280 feet, [illegible] the beds nearest the surface are the only ones at

present worked, the Anthracite coal produced up to 1863 amounted to 4,000,000 pouds (or 64,285½ tons). He states also that at a greater depth much more considerable masses of Anthracite exist, and that the beds situated to the north of Groucheoka, called the Velassossky, are not less rich in Anthracite than those just mentioned, while others equally rich are known to exist near Moubeynaya, Ekaterinskaya, and in other localities situated on the Don, though they have not been worked on account of the trifling consumption of Anthracite. It is evident, therefore, that this small part of the military district of the Don is capable of furnishing annually several thousand million pouds of coal, and that if the amount produced is increased, its price which is still six copecks the poud, when taken at the pits mouth, will be lowered.

At present the pits of Groucheoka provide with Anthracite coal the Russian steamers navigating the Don, the Black Sea, and the Sea of Azof, and the railway which unites the Don with the Volga. This coal is also sent to Astrakan, where it is used by the steamers on the Caspian, a supply being kept on the Persian island of Achonade. Its price on the Caspian comes to 45 copecks a poud.

After stating that there are many large beds of coal of excellent quality in the central part of the Donetz, General Helmersen gives an account of the mines of Lissitchansk, which belong to the Crown, but from which very little coal has been taken, on account of the difficulties of transporting it.

Near Stcherbmouku, Jaitsovo and Nilsitova, there are several coal fields which have a depth of 12 feet, and extend without interruption over a space of 43 versts. This seam alone contains many hundred millions of pouds.

In further pointing out the riches of the Donetz in coal and other minerals, General Helmersen concludes by saying, that he hopes the time will soon arrive when Russia will no longer be dependent on foreign countries for coal and iron, but that she will make her own machinery, and use her own coal for her own requirements.

As to the coal fields on the western flank of the Ural Mountains, there are some interesting details in General Helmersen's pamphlet, from which it appears that the coal beds of the River Louma produce the best coal in this part of Russia, which have a caloric force equal to 6.738 per cent., only a small quantity however has been produced in consequence of the want of means of communication. As to the amount of true coal produced in these coal pits, it is quite impossible to ascertain what it may have been in the last year, as the mines are chiefly in the hands of private persons who keep no regular account of the workings.

(Signed) VICTOR A. W. DRUMMOND.

St. Petersburgh, December 1866.

Inclosure 4.

Memorandum of Major-General N. Iwanoff on the Composition and Quality of Coal discovered in 1865 *on the River Tshoosovoy.*

IN 1865 the Director of the Steam Navigation Company on the Volga, Mr. W. A. Glasenap, wishing to develop the industry of the countries which lie along the shores of that river, and to secure fuel for its steam navigation, undertook a search for coal along the River "Tshoosovoy," and its tributary streams. These investigations were carried out under the orders of Mr. Glasenap, by the Belgian engineer Rasken, and were attended, as it appears, with marked success. Coal was found along the river. The seams are now described, samples of the coal having now been chemically examined and defined.

The analytical investigations of the samples presented by the Engineer Rasken were made in my Laboratory Department, and the results are as follows:—

No. 1. A piece of coal which was found in 1865, in the seam of "Vashkoorsky" belonging to Prince Serge Galitzin, on the right shore of the "Tshoosovoy" near the River Vashkoura, which falls into it, contained in 100 parts,

	Per cent.
Carbon	76·36
Hydrogen	4·73
Oxygen and azote	13·80
Earthen substances (ashes)	2·70
Hygroscopic water	2·40
	99·99

Its organical parts contained,

	Per cent.
Carbon	80·00
Hydrogen	5·20
Oxygen and azote	14·50
	99·70

By heating it without access of air (for reducing it to coke), it evolves 44·63 per cent. of volatile substances, and there remains 55·37 per cent. of coke which contains 52·6 parts of coal.

This coal of Vashkoorsky, when burnt gives out a long yellowish flame and leaves fine soot. Its calorific capacity amounts to 6,960 units, and its pyrometrical action, *i.e.*, the degree of heat theoretically defined, amounts to 2,500 per cent.

Sample No. 2 from the same seam, which was exposed to the open air since 1858, contained in 100 parts,

	Per cent.
Carbon	73·90
Hydrogen	4·63
Oxygen and azote	12·43
[illegible]en substances (ashes)	5·83
[illegible]opic matter	3·20
	99·99

Its organical parts contained,

	Per cent.
Carbon	81·00
Hydrogen	5·00
Oxygen and azote	13·60
	99·60

By reducing it to coke, it evolved 45 per cent. of volatile substances, and there remained 55 per cent. of coke, which contained 49 parts of coal. The coal of Vashkoorsky (No. 2), in burning gives a yellowish flame, and leaves fine soot. Its calorific capacity amounts to 6,750 units, and its pyrometrical action to 2,494 per cent.

Sample No. 3 was taken from the seam of Vashkoorsky, belonging to the Countess Bouter, some distance lower on the River "Tshoosovoy" than those mentioned above, which had also been exposed to the open air since 1858, and contained in 100 parts,

	Per cent.
Carbon	77·863
Hydrogen	4·770
Oxygen and azote	7·937
Earthen substances	6·600
Hygroscopic water	2·830
	100·000

Its organical parts contained,

	Per cent.
Carbon	85·96
Hydrogen	5·24
Oxygen and azote	8·76
	99·96

By heating it without access of air, it evolved to 43·5 per cent. of volatile substances, and there remained to 56·5 per cent. of coke. When burnt it gave a long yellowish flame, and its calorific capacity amounted to 7,320 units, and its pyrometrical action to 2,409 per cent.

By comparing the above-mentioned results, it would appear that the coal of Vashkoorsky, if exposed for a long time to the air, is little changed in its composition and qualities, but it loses its power of producing coke.

Sample No. 4, which was found in the seam of Archangel Pashisky, belonging to Prince Serge Galitzin, about 25 versts (16 miles) from the River "Tshoosovoy."

This coal burns like No. 1, with a long yellowish flame, gives 61·0 per cent. of coke, and evolves 39·0 per cent. of volatile substances. But as 61 parts of the coke contain but 46 parts of coal, and the remainder consists of earthen substances, it is impossible to define exactly the elementary composition of the coal. By heating it without access of air, and by burning, it gave—

	Per cent.	
Volatile substances	38·7	
Coal	46·1	} Coke, 61·3 per cent.
Ashes	15·2	

Its calorific capacity, defined by the system of Bertje, amounted to 5,913 units.

Sample No. 5, from the seam of Kinoffsky, belonging to Count Stroganoff, 7 versts from the River "Tshoosovoy," about 120 versts (80 miles) further up stream than Vashkoorsky, contained in 100 parts—

	Per cent.
Carbon	71·90
Hydrogen	5·02
Oxygen and azote	15·05
Earthen substances	7·52
Hygroscopic water	3·50
	99·99

Its organical parts contained—

	Per cent.
Carbon	78·0
Hydrogen	5·4
Oxygen and azote	16·3
	99·7

On being heated without access of air, the coal of Kinoffsky evolved 39·3 per cent. of volatile substances, and there remained 60·7 per cent. of coke. In the air it burnt with a long yellowish flame, and with fine soot. Its calorific capacity amounted to 6,643 units, and its pyrometrical action to 2,563 per cent.

Two per cent. of brimstone, particularly in the form of sulphuric acid, with gypsum, was found in samples Nos. 1, 2, 3, and 4, and 3 per cent. in the sample No. 5 of Kinoffsky.

The results of the chemical examination of the above-mentioned specimens of coal are not to be accepted as entirely correct, because the samples presented for examination, being in small pieces, do not give either the average composition or the exact quality of the coal in the seams; but nevertheless they may all be considered to belong to the kind called "demi-grasse," and "grasse à longue flamme," which, next to dry coals, are preferred for domestic fuel, for heating steam boilers, and reflecting stoves, for pudding-iron, for fuel in general, and also for the production of gas. The sample of coal from Archangel-Pashisky alone, contained only a sufficient quantity of earthen substances to choke the fire-bars when used for heating boilers. In the other samples of Vashkoorsky and Kinoffsky coal when used for heating boilers, no injurious effect was produced by the earthen substances, as these coals contained brimstone, sulphuric acid with gypsum.

The fitness of the coal of Vashkoorsky, Archangel-Pashisky, and Kinoffsky, for employment in manufactories is proved by the similarity of its composition and qualities to that which is already in great demand, namely, to the coal of Lancashire in England, of Epinas and the Bassin Rive de Gier in France, to that of Lisitshansky, and to that of Kinoffsky belonging to Count Stroganoff (examined in the Laboratory of the Mine Department in 1863), and also to that of Loangkafsky belonging to Madame Vsevoloshky, as it appears in the following analysis of the two last seams.

The coal from Kinoffsky, of Count Stroganoff, examined in the Mine Department in 1863, contained in 100 parts—

	Per cent.
Carbon	70·96
Hydrogen	4·99
Oxygen and azote	7·00
Earthen substances (ashes)	10·88
Brimstone	5·01
Hygroscopic water	1·28
	100·12

Water and earthen substances being excepted, its organical parts contained—

	Per cent.
Carbon	83·89
Hydrogen	5·89
Oxygen and azote	10·20
	99·98

By heating it without access of air, it produced 63·92 per cent. of coke, evolved 36·08 per cent. of volatile substances, and left 10·88 per cent. of ashes. It burnt sufficiently long with a yellowish flame and fine soot. Its calorific capacity was equal to 6,836 units, and its specific gravity to 1·30.

The coal which is found in the mine of Loanjefsky, belonging to Madame Vsevoloshky, on examination by Professor Stein at Dresden, was found to contain in 100 parts—

	Per cent.
Carbon	69·069
Hydrogen	4·606
Oxygen and azote	10,028
Ashes	8·139
Brimstone	5·577
Hygroscopic water	2·581
	100·000

The organical parts of this coal are as follow:—

	Per cent.
Carbon	82·51
Hydrogen	5·51
Oxygen and azote	11·96
	99·98

On the examination of the best samples of Loanjefsky coal in the Laboratory Department, it was found that by heating without access of air it evolved from 24·3 to 36·7 per cent. of volatile substances, and gave from 63·3 to 76·7 per cent. of coke, leaving, after burning, from 5·7 to 7·4 per cent. of ashes, and its calorific capacity amounts to 7,000 units.

The accompanying Table shows, comparatively, the composition of coal from Russia, England, and France:—

	General Composition.				Composition of the Organic Parts.					
	Carbon.	Hydrogen.	Oxygen and Azote.	Ashes.	Carbon.	Hydrogen.	Oxygen and Azote.	Coke.	Volatile substances.	Units of Heat.
1. Lisitshansky coal contains, in 100 parts	75·97	5·42	13·2	4·12	7·99	5·71	14·37	62·5	37·5	6·780
2. Lancashire	72 86	4·98	9·22	11·40	83·69	5·72	10·53	...	...	...
3. Epinas in France	80·00	5·10	13·36	2·53	82·08	5·28	12·69	...	...	...

SPAIN.

Sir J. Crampton to the Earl of Clarendon.

My Lord, *Madrid, April* 12, 1866.

I HAVE the honour to inclose to your Lordship herewith copy of a letter addressed to me by Mr. West, Her Majesty's Secretary of Legation, submitting to me his Report upon the coal-fields and coal trade of Spain, drawn up in accordance with the instructions contained in Lord Russell's circular despatch of the 3rd of May, 1865.

I have, &c.
(Signed) JOHN F. CRAMPTON.

Inclosure 1.

Mr. West to Sir J. Crampton.

Sir, *Madrid, April* 1, 1866.

I HAVE the honour to submit to you, for transmission to Her Majesty's Government, my Report upon the coal-fields and coal trade of Spain. At the same time I beg to remark that the delay which has occurred in fulfilling the instructions contained in Lord Russell's circular despatch of the 3rd May, 1865, has arisen chiefly from the extreme difficulty which exists in obtaining reliable information upon these subjects.

The official Returns are drawn up in a manner calculated to mislead as to the amount and quality of the coal produce; and having been informed that such was the case, I was anxious to be able to explain why these Returns cannot be depended upon, and the manner in which they are made up.

Under these circumstances, I did not feel justified in transmitting a Report founded solely upon these Returns, which might have misled many persons as to the wealth of Spain in coal, and the effect which its existence has had upon the industrial progress of the country, especially as it appears that there prevails a general opinion in England that Spain contains some very valuable coal mines, the produce of which has of late greatly contributed to the progress she is supposed to have made.

By a provision in the mining laws of Spain, it is made incumbent on the holders of mining concessions to employ at least four men for 183 days in the year. Even this small amount of labour, however, cannot in many cases be profitably expended and the

result is, that the proprietors, in order to keep their concessions, and in order to prevent others from obtaining them, give in fictitious Returns of the produce to satisfy the provisions of the law.

The importance, therefore, of many of the coal mines in an industrial point of view may easily be estimated when it is considered that it does not pay to employ even four men for 183 days in the year in extracting coal.

I have thought it better to address these observations to you in my letter submitting my Report, in order that it should contain as few digressions as possible as regards the Official Returns.

I have, &c.
(Signed) L. S. SACKVILLE WEST.

P.S.—I subjoin a Table showing the mineral produce of each of the forty-nine Provinces of Spain for the year 1863.

L. S. S. W.

Inclosure 2.

Report by Mr. West on the Coal Produce and Trade of Spain.

Statement of Coal Fields actually worked in Spain.

Coal is worked more or less in Asturias, Leon y Palencia, Burgos y Soria, Ubrilla and Gargollo in Fernel, Gerona, Cuença, Belmez y Espiel, and Villanueva del Rio. But as all the Government Returns are made up for each Province, it will be more convenient to class the different coal districts under the provincial names.

These are, then, Oviedo, Leon, Cordoba, Sevilla, Palencia, Gerona, and Burgos.

Oviedo.—The Province of Oviedo appears to furnish more than any of the others. According to the Government Returns it produced in 1860, 2,794,283 metrical quintals, or 279,428 tons; and in 1863, 3,073,967 metrical quintals, or 307,396 tons. All this coal is transported by the Langreo Railway, and shipped at Gijon in coasting boats to Gallicia and the Vizcayan Provinces, and thus finds its way round the coast to the Mediterranean. It seems, however, that since the suspension of several large iron foundries, and the general depression of the iron trade, the quantity of coal transported has decreased considerably. In 1864 the Traffic Returns gave 67,828 tons, which amount has fallen now to 8,589 tons, thus showing a decrease of 12·66 per cent. Where difficulty exists in obtaining exact Returns of the quantity of coal raised, that is to say, when the Government Returns cannot be depended upon, I have had recourse, as in this instance, to the Traffic Returns of the line of railway which happens to be in proximity to the coal fields.

Leon: Districts of Valderrueda, Sabero, Matallana, Otero Valdesamario, and Vierzo.—The Leon works produced in 1860 62,000 metrical quintals, or 6,200 tons, and in 1863 67,919 metrical quintals, or 6,791 tons. I have been furnished with a copy of a Report on the coal of this district, drawn up by Mr. Blackburn, of Oldham, and as his remarks apply more or less to all the coal districts of Spain, and especially to the Province of Gerona, and the mines of San Juan de las Abadesas, I cannot give a better idea of the real worth of Spanish coal than by quoting his Report. He says:—

"The strata throughout the district in which the coal mines of the province of Leon are situated run nearly from east to west, and incline upwards towards the north at an angle so great as in some cases to become almost vertical. In these strata, lying over and near to the limestone rock, the coal seams are found, but so far apart as to render a new opening necessary for each mine. This and the vertical position of the seams themselves is a great drawback, and renders the working much more costly and dangerous. The majority of the seams of coal are thin, while others are intermixed with layers of soft shale or white earth, which must increase the difficulty of keeping the coal clean and in a merchantable condition. The bulk of the coal itself is of a fine soft quality, apparently suitable for smithies or for being made into coke, but generally unfit for ordinary domestic purposes, and totally unfit for shipping or export.

"The facilities of transporting the produce of these mines to Leon (as the nearest principal market) are at present confined to the ordinary bullock-carts, carrying from 10 to 12 cwt. each, and the distance is about 20 miles.

"One of the seams in which a couple of men were working called San José, and lying to the west of the village of Villalfrido, was 15 inches in thickness, and another seam near the village of Orgonaga was 20 inches thick. This seam has been worked more than any other; the method of working is that adopted in Prussia, and is most costly.

"Another of the seams lying to the east is divided into four by layers of white earth or shale of the character above alluded to, viz., coal 6 inches, dirt 3 inches; coal 4 inches, dirt 10 inches; coal 12 inches, dirt 4 inches; and coal 15 inches.

"The best seam of coal in this district lies to the west of the west of the village of Mattallana, and north-west of Orgonaga, being 36 inches in thickness. Lying far apart from all these seams, and near the village of Santa Lucia, is an outcrop of a much larger seam of coal, and of a much harder quality than any apparently existing in the district above referred to, as the following section will show, viz., coal 18, dirt 9 inches, coal 22 inches, dirt 8 inches, coal 16 inches, dirt 8 inches, coal 22 inches, dirt 2 inches, coal 29 inches, dirt 18 inches, and coal 20 inches. This seam is also in a much more natural position than the others, and it is to be seen for some distance along the hill side. Its dip is into the hill, but below it, or between the outcrop and the valley

below, the strata appears to take a totally different course. This fact, taken with the general appearance of disturbance throughout the locality, would seem to render it uncertain how far the coal may be unaffected and remain in its apparently regular position. The inclination of the seam is great, but not so great as the others, and appears to be the only one fit for further investigation. If the proposed railway is made up the valley, transport would be easy. The value of these coal mines for the purposes of profitable investment will have been gathered from the preceding remarks; it is decidedly against any such undertaking, and for the simple reason that there is not one single point in their favour except the scarcity of coal in Spain, and the consequent high price of it."

The mines of the province of Gerona are exactly of a similar description. They are in fact only a continuation of the same strata. All these mines suffer under the great disadvantage of occurring in a strata exceedingly contorted and broken. The seams are in almost all cases vertical, and when not so, their more or less horizontal position is due to the dislocation of the strata, so extraordinary as to render any attempt at working them very precarious. This coal is quite unfit for transport.

The following statistics show the production in each of the different provinces for the year 1860, as compared with 1863:—

Provinces.	1860.		1863.	
	Met. quint.	Tons.	Met. quint.	Tons.
Oviedo	2,794,283	279,428	3,073,967	307,396
Palencia	217,650	21,765	606,703	60,670
Cordoba	83,000	8,300	129,013	12,901
Sevilla	No returns	No returns	90,168	9,016
Leon	62,000	6,200	67,919	6,791
Gerona	18,000	1,800	22,676	2,267
Burgos	14,490	1,449	22,563	2,256
	3,189,423	318,942	4,013,009	401,297

The Provinces of Barcelona, Lerida, Balearic Islands, Santander, Guipuzcoa, Alava, Logroño, and Jaen y Alicante, in which lignite is found, produced in 1863 50,000 tons more than in 1860, when the quantity extracted was only 17,530 tons, viz.,—

	Tons.		Tons.
Barcelona	4,410	Alava	30
Lerida	53	Alicante	1,519
Balearic Islands ..	864		
Guipuzcoa	6,830		13,706

The remaining 3,824 tons were raised in Saragossa and Gerona. Santander, Logroño, and Jaen do not give any Returns of lignite for 1860, according to the official Reports and Returns.

In 1863, however, the Returns of the proportion of lignite extracted in the following provinces show:—

	Per cent.		Per cent.
Santander	32·65	Gerona	2·19
Barcelona	23·91	Alicante	2·14
Guipuzcoa	21·17	Lerida	0·19
Alava	10·63	Logroño	0·47
Balearic	5·49	Jaen	0·01

The extraction of coal during the year 1863 appears to have increased over the previous year in the following provinces, viz.,—

	Per cent.		Per cent.
Sevilla	125·26	Oviedo	13·53
Leon	62·83	Gerona	7·41
Cordoba	16 53		

The Province of Burgos, however, shows a diminution of 14·29 per cent., and that of Palencia 8·05 per cent.

The proportion to the total produce of each province is,—

	Per cent.		Per cent.
Oviedo	76·40	Leon	1·69
Palencia	15·11	Gerona	0·56
Cordoba	3·21	Burgos	0·56
Sevilla	2·24		

The proportion to the total produce in the Province of Oviedo during the three years 1861, 1862, 1863 was,—

	Per cent.		Per cent.
1861	76·15	1863	76·60
1862	75·15		

The number of concessions for working coal in 1863 comprised 18,932 hectares (47,350 acres), and employed 5,869 workmen. Lignite was worked upon 1,551 hectares (3,850 acres), and employed 400 workmen.

The Asturian Coal Company possesses 94 concessions, distributed in various groups, 31 of which are in work. They produce 78,307 tons, and employ 650 men; more than 25,000 tons of this quantity are consumed by the iron founders.

In the vicinity of the River Candin there is a coal field of considerable extent, formerly worked by Messrs. Eisthal and Co., but now belonging to the Duchess of Leuchtenberg. It consists of 43 concessions, 20 of which are in work. The produce is over 30,000 tons, and employs 380 workmen. The Santa Ana Company has 81 concessions, 17 of which are in work, producing 40,000 tons, and employing 850. A Belgian Company extracts from 14 concessions, 5,000 tons; La Justa holds 25 concessions, extracts 9,500 tons, and employs 220 men; M. Adolf Desoignie holds 22 concessions, and extracts 10,000 tons with only 77 men. There are besides 337 other concessions, producing over 100,000 tons.

The total superficies of this province which covers the coal beds is 30,984 hectares (77,450 acres).

The following is a Table showing the number of acres worked, and the produce of the different localities:—

Locality.	Acres.	Produce.	Locality.	Acres.	Produce.
		Tons cwt.			Tons cwt.
Valle de Langreo ..	8,950	41 0	Quiros	350	14 0
Concejo de Siero ..	1,750	53 0	Oviedo	50	100 0
S. Martin del Rey ..	750	30 0	Piloña	150	6 0
Miero	2,850	59 0	Cabrales	50	3 0
Lena	100	12 0	Castrillon ..	5,500	9 0
Llanera	450	68 0	Riose	19,350	0 10

I may as well here remark that although these Returns are official, implicit reliance cannot be placed upon them, for this reason:—They are made up by the Government inspecting engineers, who require certain forms to be complied with. There are 45 inspectors, of which number 28 may be considered exclusively employed in the work of inspecting 6,581 different works, or 235 mines for each inspector to superintend in 17 different districts. Thus, therefore, the Returns depend very much upon the caprice of the holders of concessions, whether for their own purposes they shall return over or under the real quantity extracted.

Cordoba.—The extraction of coal in this province increased in 1863 over the year 1862, 16 per cent. The want of communication and facilities of transport, however, render the working of the Espiel and Belmez seams a precarious undertaking.

Sevilla.—Very little seems to be doing in working the coal of this province. The Guadalquivir Company and Messrs. Pereiro have erected steam-engines for pumping the water from the mines of Villanueva del Rio, and an increased production may, perhaps, be obtained.

Palencia and Burgos.—The coal district in the Province of Palencia extends from Orbó to Valle, ten kilomètres in length by one and a-half in breadth. "La Esperanza de Reiñosa" works the extreme east, the "Credito Mobiliario" the centre, and the General Mining Company the west. It consists of thirteen beds, divided into two groups; the first of nine is broken by intervals of thirty yards, and the second by intervals of only four yards. The distance from one group to the other is about 500 or 600 yards. The beds lie north-west to south-east, cropping out at an angle of 70 degrees to the north-east.

The total produce of these mines is about 160 tons per day, or 4,500 tons a-month. There is a large proportion of waste in this coal. A great deal of coke is made. It is chiefly consumed by the Northern line of railway. The district of Orbó is less worked.

Want of communication with Barruelo and Quintanilla is much felt, and the mines of Valle are still worse off in this respect.

Burgos.—The coal in this Province seems to be very brittle, and the seams thin and very variable. The operations are on a very small scale. This coal gives 75 per cent. dirt, and its extraction is much impeded by water.

Gerona.—The coal of this Province is also very brittle, and

goes easily to dust. A society called "El Veterano" has been started, which for the last five years has been laying down tramways, and undertaking other works in the Provinces of Gerona and Barcelona, with the object of making the coal more marketable in the shape of coke and railway fuel.

I am told by persons who have visited many of the coal-fields, that Mr. Blackburn's remarks respecting the coal in the Leon districts as a profitable investment will apply more or less to many others. The expensive system adopted for raising it, and the want of railway communication for transport, at present make it a doubtful speculation.

The External Coal Trade.

No coal is exported from Spain. The quantity raised in the country is chiefly used for making coke and artificial fuel. Its quality will not admit in most cases even of internal transport, and export therefore would be impossible. When reduced to dust, which it soon is after extraction, it is made into cakes, and consumed by the few iron-foundries which exist; and since the price of raising it is considerable, and the means of transport difficult, it obtains a demand which is very precarious, and which protectionists argue can only be maintained by the existing differential duties.

The following Returns show the quantity of foreign coal imported into Spain during the six years from 1858 to 1863 inclusive:—

Years.			Years.		
	Quintals.	Tons cwt.		Quintals.	Tons cwt.
1858 ..	6,308,389	315,419 9	1861 ..	6,748,778	337,438 18
1859 ..	6,646,222	332,311 2	1862 ..	6,983,805	349,190 5
1860 ..	6,468,841	323,442 1		Kilogrammes.	
			1863 ..	285,574,647	281,112 0

The tendency of the import trade would therefore seem to be towards expansion. Whether this is owing entirely to the increased demand consequent upon the construction of railways, or in part to the increase of local manufactures, is a question difficult to decide. It would appear, however, that the quantity of coal imported for the five years ended 1860 was double that imported for the five years ended 1855, which would seem to imply some extraordinary demand, certainly not to be attributed to manufacturing industry, during that period, and more likely to have arisen from the working of the railways.

The depression of the iron trade is another circumstance which favours the latter view. If this industry was flourishing, the demand both for foreign and native coal would be very much greater than it is; and it would probably have the effect of developing the native produce in a manner which has not hitherto been appreciated. "But the truth is," said M. Pastor, whose words I have often had occasion to quote, "the spirit of industry

in Spain is crushed, and all progress impeded, by fiscal obstacles."

Supplies from Great Britain and other sources.

The following Returns will show the quantity of coal imported into Spain from Great Britain. These figures, however, which are taken from the Spanish Returns, differ from those made up in England:—

Years.	Quintals.	Tons cwt.	Years.	Quintals.	Tons cwt.
1858 ..	6,151,485	307,574 5	1861 ..	6,625,295	331,264 15
1859 ..	6,370,727	318,536 7	1862 ..	6,676,664	333,833 4
1860 ..	6,247,416	312,370 16		Kilogrammes.	
			1863 ..	281,656,315	277,479 0

The importation from other countries is of small account, as will be seen by a comparison with the total quantity imported for each of the above years.

The imports from France are on an average only from 5,000 to 6,000 tons annually, and in this is included all sorts of fuel.

TABLE showing the proportion which the Importation of English Coal bears to the Total Quantity imported.

Years.	Total Imports.	Imports from England.	Years.	Total Imports.	Imports from England.
	Tons cwt.	Tons cwt.		Tons cwt.	Tons cwt.
1858 ..	315,419 9	307,574 5	1861 ..	337,438 18	331,264 15
1859 ..	332,311 2	318,536 7	1862 ..	349,190 5	333,833 4
1860 ..	323,442 1	312,370 16	1863 ..	281,112 0	277,479 0

Thus, then, Spain may be said to be dependent on England for the coal which is consumed, notwithstanding its internal resources. It is the opinion of many persons conversant with these matters that they might be rendered more available by a larger outlay of capital, extended operations, and a more economical system of working; but the present uncertainty as to the eventual completion of the communications, the depressed state of the industry of the country, which is observable in all branches, is sufficient reason to prevent the investment of capital in enterprises which offer such uncertain profits.

The high price of fuel is undoubtedly one of the chief causes of this depression, and it was hoped that the northern line of railway would have brought the Asturian coal more into the market, and at reduced prices; but it is found cheaper to consume Cardiff coal in Madrid at 22 reals the cwt. than Asturian at 15 reals the cwt., because, says the Government Mining Report, the one comes into the market clean, in lumps, and unmixed with other matter, while the other is half dust, and mixed with earth and stones.

Differential Duties.

Such being the case, it seems clear that the effect of the differential duties has been and is simply to enhance the price of an article essentially necessary for the development of the industry of the country; while in their protective capacity they have in nowise assisted native production, as is manifest from the present state of the internal coal trade.

The question of the abolition of these duties has lately been argued by the Commission appointed to consider the Customs duties in general, and they would seem to have arrived at the conclusion that the reduction of 20 per cent. which their abolition would effect would not entail any disastrous consequences; but they say that any further reduction would be instantly followed by ruin, and that it is absolutely necessary to class coke in a separate category, as this article requires a greater amount of protection than coal. To these arguments Don Luis Pastor answers by asking upon what grounds it is sought to maintain duties upon articles essentially necessary for Spanish industry, thus restricting importation and raising the price, especially when it is proved that the national resources are wholly inadequate to meet the demand. To such an extent is this the case, that the mineral industry of Cartagena suffered very considerably at the beginning of the year, because the storms and bad weather prevented for some time the arrival of coal from England. He concludes by affirming that the coal-mines of Spain will never improve until the country is inundated by foreign coal—the only means of re-establishing its manufacturing industry, and thereby of increasing the demand to such an extent as must at last bring the native coal into favourable competition.

A reduction in the price of fuel by lowering the duties on foreign importation would have a most beneficial effect upon many branches of industry at present scarcely able to maintain themselves, and might probably have the effect also of drawing nearly double the quantity of coal from England and other countries into Spain.

(Signed) L. S. SACKVILLE WEST.

Provinces.	Iron.	Lead.	Silver lead.	Silver.	Copper.	Tin.	Zinc.	Quicksilver.	Cobalt.	Antimony.	Manganesc.	Soda.	Alum.	Sulphur.	Coal.	Lignite.	Schist.	Asphaltum.
1. Alava	61	...	...	...	...	...	40	...	...	...	...	...	...	...	...	5,550	...	400
2. Albacete	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Alicante	9	...	...	...	...	...	...	12	...	...	...	...	...	...	...	1,080	...	...
4. Almeria	45,015	31,944	21,513	...	469	...	12,225	...	...	...	140	...	...	...	...	...	...	...
5. Avila	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Badajoz	...	144	...	...	182	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Baleares	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,762	...	...
8. Barcelona	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12,029	...	...
9. Burgos	502	...	...	...	...	...	...	...	...	...	...	2,735	...	...	2,256	...	...	...
10. Cáceres	...	...	187	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Cadiz	...	...	...	...	...	...	...	...	...	...	...	...	...	460	...	...	...	...
12. Canaries	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. Castillon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Ciudad Real	...	130	425	...	...	9,441	...	...	...	...	...	...	...	...	...	...	...	...
15. Cordoba	...	1,194	184	...	290	...	...	...	...	...	...	...	...	...	12,901	...	...	...
16. Corunna	...	...	...	...	481	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Cuenca	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18. Gerona	556	108	...	...	133	...	...	...	...	...	...	...	...	...	2,267	1,102	...	...
19. Granada	...	3,240	...	...	82	...	74	...	...	...	...	...	...	...	...	...	...	...
20. Guadalajara	495	...	...	3,061	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. Guipúzcoa	3,500	...	821	...	...	...	126	...	...	...	...	...	...	...	...	10,650	...	...
22. Huelva	...	...	...	...	229,499	...	...	...	...	...	14,659	...	...	...	...	...	...	...
23. Huesca	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Jaen	...	27,039	...	...	16	...	...	...	...	...	...	...	...	...	...	6	...	...
25. Leon	2,600	...	...	...	...	...	...	...	...	...	...	...	...	...	6,791	...	...	...
26. Lerida	...	70	...	...	116	...	...	...	...	...	...	...	...	...	...	460	...	...
27. Logrono	4,163	...	...	...	...	...	...	...	...	...	...	...	...	...	...	237	...	...
28. Lugo	1,061	...	92	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29. Madrid	...	...	...	...	...	...	...	...	...	...	...	5,354	...	...	...	...	...	...
30. Malaga	21,200	750	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
31. Murcia	2,798	203,848	16,837	...	361	...	...	...	...	...	60	...	7,643	11,502	...	...	...	...
32. Navarra	1,500	...	46	...	10	...	740	...	...	...	...	...	...	...	...	...	...	...
33. Orense	138	...	...	...	...	29	...	...	...	...	...	...	...	...	...	...	...	...
34. Oviedo	30,461	...	...	...	40	...	800	7,408	18	80	...	...	...	...	307,396	...	40	...
35. Palencia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60,670	...	...	...
36. Ponte Vedra	...	...	...	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...
37. Salamanca	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
38. Santander	29,698	58	...	...	200	...	34,119	...	...	...	...	...	...	...	...	16,425	...	...
39. Segovia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
40. Sevilla	6,620	966	9	...	13,142	...	...	...	...	...	...	...	...	...	9,016	...	...	...
41. Soria	...	...	191	...	...	...	...	...	...	...	...	...	...	...	...	...	...	493
42. Tarragona	...	42	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
43. Ternel	...	4	...	...	1	...	...	...	...	...	...	...	...	19	...	...	...	...
44. Toledo	1,622	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45. Valencia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
46. Valladolid	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
47. Vizcaya	70,720	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
48. Zamora	...	...	...	...	...	14	...	...	...	5	...	...	...	...	...	...	...	...
49. Zaragosa	...	...	...	...	247	...	...	...	...	...	...	...	...	...	...	...	...	...

Ciudad Real.—Almost all the lead ore of this province is exported for smelting.

Granada.—In the district of Gor, calamina has been worked, but no Returns are given.

Murcia.—The quantity of silver in the mineral produce of this province is about 1 oz. to 100 lbs.

Palencia.—The coal-mines of this province, worked by "Credito Mobiliario," made 73·77 tons of cake fuel, and 51·77 tons of coke.

Salamanca.—This province produced 12 cwt. of topaz.

Soria.—The quantity of silver in the lead ore is 3 oz. to 46 kilogrammes; and in the argentiferous, 1·88 oz. to the 46 kilogrammes.

UNITED STATES.

Report by Mr. Burnley.

THE value of correct official statistics regarding the manufactures and industry of the country is getting to be felt more and more every day. For this purpose the late amendatory Tariff Law decreed that a "Bureau of Statistics" should be established in and attached to the Department of the Treasury, whose special duty it should be to prepare annual statistics of the various manufactures and industries of the United States.

With regard to coal, there are only two sources which may be deemed official, the "Miner's Journal" of Pottsville, under the able direction of Mr. Bannen, and the receipts of the Internal Revenue Department.

The former, however, confines itself to the coal regions of Pennsylvania and surrounding districts; and the latter, it is well known, can never be a proper gauge of the produce of the country; and even this source will now fail us altogether, inasmuch as coal has, by the new law, been placed on the free list.

The tabular statement herewith annexed gives us the entire coal trade of the regions in Pennsylvania with reference both to the anthracite as well as the semi-anthracite and bituminous, and brings us down to the end of the calendar year of 1865, the year with which this Report has to deal.

It appears that the supply of anthracite sent to market in 1865 was 9,488,396 tons against 9,998,046 tons in 1864, showing a loss of 509,650 tons in 1865.

The stoppage of iron works and manufactories, and the general stagnation of business that took place after the collapse of the great rebellion caused a falling off in coal in a period of four months of about 1,200,000 tons. The resumption of business, however, during the present year reduced this amount at the close of the shipping season to 509,650 tons.

The whole quantity from the semi-anthracite and bituminous regions embraced in the Table, sent to market in 1865, was 1,383,486 tons, so that the summary for the past year will be as follows:—

	Tons.
From the anthracite regions	9,488,396
Some anthracite and bituminous	1,383,486
Total	10,871,882

According to Mr. Bannen's Table since the commencement of the trade, the different regions have furnished the following quantities: —

	Tons.
Schuylkill region	60,422,057
Lehigh	28,656,599
Wyoming and Lackawana region	42,050,008
Shamokin	2,992,885
Total anthracite	134,121,549

From 1820 up to 1866, the supply sent to market for forty-six years was as follows:—

	Tons.		Tons.
1820–30.. ..	359,190	1850–60.. ..	56,954,864
1830–40.. ..	5,261,197	1860–66 (6 years)..	52,172,869
1840–50.. ..	19,373,429		134,121,549

According to the above statement, the decennial increase was as follows:—

1830–40	.. about 164 per cent.	1850–60	.. about 19½ per cent.
1840–50	.. „ 21 „	1860–66	.. „ 8½ „

With regard to the general product of the whole country, we must fall back upon the amount of coal brought to excise under the internal revenue laws, and for this purpose I give the Returns for the fiscal years ending June 30, 1864, 1865, and 1866:—

1864.

Revenue.	Duty per ton.	Production.
Dols. c.		Tons.
575,373 66	3½ cents	16,355,329
1865.		
105,449 80	3½ cents	3,012,854
575,373 66	5 „	11,507,473
155,170 45	6 „	2,586,174
835,993 91		17,106,501
1866.		
1,233,213 0	6 cents	20,553,550

This gives us for the fiscal year 1865 an increase of 751,172 tons, and for 1866 of 3,447,049 tons, as compared with the year 1864.

Several Returns from coal-producing districts not having been received for 1866 would probably bring the amount of revenue for this year to 1,300,000 dollars, and the amount of tons produced in proportion.

The Revenue Reports for 1866 have not as yet appeared. I am therefore unable to classify the countries from which the

Returns have been received, so as to get the amount produced by each State, but I perceive that Mr. Kortright, Her Majesty's Consul at Philadelphia (see Consular Reports for 1866, No. 8), has given us the quantities for the calendar year 1865 as follows:—

	1865.		1865.
	Tons.		Tons.
Rhode Island	8,060	Minnesota	..
Pennsylvania	13,444,704	Kansas	911
Maryland	567,983	California	32,877
Virginia	30,958	Washington	19,214
West Virginia	279,343	Utah	434
Kentucky	91,113	Tennessee	13,662
Missouri	87,072	Iowa	62,508
Ohio	1,440,159	Oregon	2,048
Indiana	158,438	Colorado	414
Illinois	1,160,622		
Michigan	17,097	Total	17,417,617

Out of the 17,000,000 given there, Pennsylvania alone produced 13,000,000.

Mr. Kortright observes further that "the capacity of the Pennsylvania mines is fully equal to 20,000,000 tons a-year, and that the question of a full supply rests wholly upon the permission of the five carrying Companies." His Report generally is a very complete one as regards both the trade by railroad and canal.

The following Table relating to the consumption of coal on the lines of the different railroads and canals in 1865, shows that a very large quantity of anthracite coal is consumed before it reaches tide water. Of the total supply of anthracite, 9,488,396 tons, about 2,205,109 were consumed on the lines of the different avenues to tide water and the interior:—

	Tons.
Philadelphia and Reading Railroad..	659,379
Schuylkill Canal	87,250
Lehigh Valley Railroad	423,623
Lehigh Canal	82,235
Delaware Division	28,930
New Jersey Central	98,111
Belvedere and Delaware .. .. .. (say)	50,000
Wyoming Canal .. .. .. (about)	100,000
North Branch Canal	28,957
Lackawana and Great Western Railroad, north ..	264,293
,, ,, ,, south ..	123,891
Bloomsburg and Lackawana, south	150,000
Delaware and Hudson Canal	10,825
Pennsylvania Coal Company	17,615
Morris Canal	40,000
Shamokin	40,000
Total..	2,205,109

Her Majesty's Consul at Baltimore makes the following remarks on the subject of coal in Maryland.

"Coal holds the first place in importance amongst the mineral productions of the State of Maryland. There are three distinct

fields or basins. The first, in fact, the only one at present worked is the Potomac or Cumberland coal field. It is some fifty miles long by from five to nine miles broad, with an average thickness of 14 feet. The coal is of excellent quality, being very free from gas and admirably adapted for making steam. The second region at present unworked is the Meadow Mountain Coal Field, with an area of fifty square miles. It is believed to be about 6 feet thick, and is of a very good quality. The proposed line of railroad to Connelsville will tap this field. The third basin is styled Yonghiogheny, from the river of that name which runs through it. It is untouched but is believed to be over fifty square miles in extent with a thickness of over 10 feet. The quality of the coal is the same as that of the Meadow Mountain Basin. The production of coal in 1865 from the Cumberland basin is estimated at 903,495 tons, being 245,499 tons in excess of 1864."

Of the foregoing, the following amount came by the railroad:—

	Tons.
Quantity sent through to Baltimore	503,689
Delivered on line of road	51,239
Taken for use of Company..	175,277
Delivered at Baltimore for 3 steam-ships	16,000
Total	746,205

"The balance, except 20,177 tons taken for local consumption was delivered to the Chesapeak and Ohio canal.

"It is estimated that the railroad will bring down this year not less than 1,000,000 tons. The present rate of freight is 4 dollars 20 cents per ton.

"Since the commencement of the Cumberland coal trade in 1842 down to the present time, there has been an aggregate of 9,349,724 tons; 6,416,010 by the railroad, and 2,933,714 by the canal.

"The miners are paid 75 cents a ton, and a good hand will break 5 tons a day. They are principally Irish, Scoth and Germans."

This is the kind of coal which I took occasion to observe in a previous Report was extensively used for steam-ships; the Cunard line consume annually between 60,000 and 70,000 tons.

Mr. Bannen, in speaking of the Cumberland coal miners, makes the following remarks:—"The great increase of the Cumberland coal trade during 1865 of 245,499 tons, in a business of 903,495 tons, whilst the anthracite trade decreased to a considerable extent seems to indicate a better appreciation of the value of the Cumberland coal. A large consumption of bituminous coal will eventually become a necessity in this country where we have 200,000 square miles of bituminous to 470 square miles of anthracite. The natural increase in the consumption of coal in the United States will be much greater than the increase of the British coal trade, and the present century may witness a production of 100,000,000 tons per annum. It is now over 22,000,000, consequently we shall be forced to use bituminous

coal for many purposes in which anthracite is now employed. Both invention and improvement are tending to such results and even the richest bituminous coal can now be used raw in the production of pig iron by the Seeman's process with much economy."

The Cumberland Coal Company has been one of the most steady stocks on the list for nearly a year. This and the Fall Brook Coal Company, owned by Mr. John Magee, of Bath, are the only two coal fields which possess the requisite qualities for steam and factory purposes, the ash left is only 5 per cent. The great drawback has been the lack of sufficient transportation facilities to get the coal to market. This is being improved upon however, and will be extended so as to meet all requirements.

Referring to Mr. Bannen's table of the anthracite and semi-anthracite trade, I would observe that it does not deal with the bituminous coal of Western Pennsylvania, but merely of the products east of the Alleghany mountains in Pennsylvania and Maryland. The Western bituminous production, he observes in his lately published work on "Coal, Iron, and Oil," and is published by Trübner and Co., in London, may be stated approximatively thus:—

	Tons.
Alleghany coal fields	9,078,708
Central coal fields	2,250,000
Michigan or Northern coal field	100,000
Total for 1864	11,428,708

If to this, we add the anthracite and semi-bituminous of Eastern Pennsylvania 10,635,319 tons, and 200,000 tons for the Southern bituminous (Virginia and North Carolina) we get at a total product for the United States, according to Mr. Bannen's views of 22,264,027 tons for the year 1864.

His estimates with regard to the production of 1865 are as follow:—

PRODUCTION of Bituminous coal in the United States for 1865.

Alleghany coal field	9,078,708
Ditto, increase in Maryland	245,499
Ditto, increase in Pennsylvania	250,000
Central coal field	2,250,000
Increase in Illinois	100,000
Northern or Michigan coal fields	100,000
East Virginia and North Carolina	No return.
	11,974,207
Decrease in the Southern States	600,000
Total bituminous production	11,374,207
Anthracites	11,532,732
Total for the United States in 1865	22,906,939

The production of the Southern States is estimated by the amount mined before the war. During the war and since, but a

limited proportion of the quantity assigned them has been produced.

The central coal field comprises Illinois, Indiana and Western Kentucky, Missouri, Iowa, Arkansas, Kansas, Nebraska. The Michigan or Northern coal field is located in the centre of the State of Michigan, and between Lake Huron and Lake Michigan, whilst the Alleghany coal field comprises the States of Pennsylvania, Ohio, Maryland, West Virginia, East Virginia, Kentucky, Tennessee, Georgia, and Alabama.

The coal measures in Missouri have been discovered in upwards of forty counties, lying chiefly along the Missouri and Osage rivers. The most extensive and valuable deposits are in Andrew, Atchison, Buchanan, Holt, Platte, Charlton, Linn, Livingston, and Macon counties, which contain about 3,500 square miles of coal lands, which average it is said a mean thickness of 11 feet. Professor Snealow's computation makes out 38,000,000,000 tons of coal in these nine counties. St. Louis county contains 160 square miles of coal territory. The coal strata in Boome and Cooper counties are very rich and extensive. A prominent writer argues that there is enough coal in the State of Missouri to last 3,000 years, of 300 working days each, if an average of 100,000 tons were mined per day.

Professor Rogers estimates the Illinois coal fields to contain 1,277,500,000,000 tons; over six times as much as all the coal fields of Great Britain, and that it would take 100,000 years to exhaust them. The prominent seams are the Belleville and La Salle, occupying the southern and middle parts of the State. Mining is now carried on in St. Clair, Madison, Randolph, and La Salle counties. The present annual product of the entire State is about 1,500,000 tons. St. Louis, Chicago, and the markets of the Upper Mississippi, and the home consumption are supplied mainly or in part by Illinois coal. Last year Southern Illinois sent 10,000,000 bushels of coal to St. Louis markets, of which the St. Louis, Alton, and Terre Haute carried 6,000,000, and the Ohio and Mississippi road 4,000,000 bushels (28 bushels = 1 ton).

Yet with all this enormous array of figures, the United States raise but the paltry amount of twenty millions of tons, about one-fifth of the amount raised by Great Britain. With the increased growth of manufactures and cheap prices favoured by exemption from taxation, which is the case since the passage of the new Revenue Law, this will rectify itself in future years. America ought not only to supply its own personal wants, but all the rest of the world besides.

The present supply comes from a very limited region and is under the control of a few transportation companies. Previous to the war, the Pennsylvania product had supplied fuel for half the continent, meeting the requirements of the seaport and frontier and even under-selling the colliers of Nova Scotia in the markets of Canada. This was due to the facility with which it was quarried and conveyed to different places. These facilities were steadily

increasing. Canals and railroads were extended from New York and other parts of the country to the coal regions of Pennsylvania to bring away their product to the market. But the demand was also steadily increasing year by year when the war began. The war at once added largely to that demand, by the necessity for supplying the greatly increased steam marine and the extensive manufactories which were kept in operation to furnish material for military use, which, aided by the Government issues of currency, immediately gave an upward impulse to prices. This impulse was aided by the flood of the previous year, which suspended operations and led to the exhaustion of the stocks in hand. These and other causes continued to operate in sending prices up as a matter of course till the conclusion of the war, at which time indications appeared of a decline. These indications were, however, doomed to disappointment. The attempts of the colliers of the Lackawana and Wyoming coal districts to reduce the wages of the miners, were followed by an extensive strike which enabled the companies to sell their stocks at such enormous profits as to suggest to many the possibility that they had secretly connived at the affair themselves, certainly the strikers only obtained penury for their part of the transaction, and the consumers by reason of it have been compelled to pay exorbitant prices during the entire winter. There are symptoms now of the approach of better times, and yet we must not look for any permanent change for the better until the financial system of the country is placed in a healthier condition, and railroads for the transportation of coal to the different parts of the country where it is required have been multiplied.

In the last report from the Land Office for 1865, I note the following remarks on coal in the State of Colorado and Washington Territory.

Colorado.

"To a geologist nothing can be more certain than that at least 1-3rd of the plains of Colorado contain coal, and it has been found in enough localities to prove that that theory is correct. As yet very few coal veins have been opened and worked, and most of these are on lands that have been surveyed previous to the discovery of coal, so that the amount found and returned by the surveyors is comparatively small. In this country there is not a stream that does not contain indications of coal."

Washington Territory.

"Washington territory is rich in mineral productions. Great mines of superior coal have been opened and worked on Bellingham Bay, on the Samamish Lake, near Seattle, and on the Straits of Fuca. Coal in vast fields has lately been discovered near the waters of the sound in various localities, and all that is needed to succesfully work these newly discovered mines are men and capital. The Government will some day become aware of the

importance of Puget Sound as a coal depôt for the supply of the naval vessels which must ever be kept permanently on the waters of the Pacific. Coal could be furnished on board its men-of-war for about half the cost of transportation from the Atlantic side to the present depôt on this coast."

The following on the coal trade of Pittsburg is not without interest as it shows that there is a very considerable quantity of coal consumed by owners of rolling mills and iron works in the immediate vicinity of the coal mines of which no note is taken at all.

The Coal Trade of Pittsburg.

"The coal fields surrounding Pittsburg are 15,000 square miles in extent. The developed fields lie along the Monongahela, Youhiogeny and Allegheny Rivers, and along sections of the Pennsylvania, Connellsville and Pittsburg and Stewbenville Railroads. The collieries of the Monongahela which mainly furnish the markets with 'Pittsburg coal,' are about seventy in number, covering 12,894 acres, and valued at 4,809,875 dollars. They employ 3,485 hands. It is estimated that they furnished in the last twenty years 13,097,581 tons of coal. The value of tolls collected from shipments of coal in the several pools of the Monongahela slack water during 1865, was upwards of 85,000 dollars, an increase of 45,500 dollars in two years.

"The coal freights of the Youhiogeny are brought to this city by the Connellsville Railroad. There are twenty-two collieries along this road. They embrace 3,929 acres, and are valued at 1,000,000 dollars. They employ 900 men. From these collieries the average amount transported over the Connellsville Railroad for the past five years has been about 2,000,000 tons, worth 5,000,000 dollars.

"In the hills immediately circling the city are some ten or twelve coals works covering an area of 1,570 acres, valued at 1,256,000 dollars, and giving employment to about 1,500 hands. Several of our rolling mills across the Monongahela, in Sligo and Birmingham, are supplied directly by collieries a few feet above them. Graff, Bennett, and Co., who consume nearly 10,000 bushels a day, mine their coal in the adjoining hill side. These 'city mines' furnish nothing for outside markets. They yield a yearly product of 3,000,000 bushels, all of which is consumed by our rolling mill and iron works.

"The collieries that border the Pennsylvania Railroad from this city to the 'foot of the mountain,' are not usually classed as in Pittsburg measures, though the most valuable lie nearest the city. The bulk of the trade goes east. Those immediately in the vicinity of the city cover about 1,000 acres all told, employ 400 hands, and send to this market an annual average of about 4,500,000 bushels. The Allegheny valley collieries, though neither very numerous nor very productive, extend over a large tract of territory, perhaps 1,500 acres, and employ about 500 hands. From these collieries the Allegheny Valley Railroad

brought to this city last year about 70,000 tons. These coal lands are considered exceedingly valuable, and but for the limited facilities for transportation at the very season when their product is most called for, they would no doubt be extensively worked.

"The exact depth and value of the coal measures around Pittsburg it is impossible to figure; but the upper seam alone averages 8 feet in thickness. An industrial writer figures the contents at 53,516,430,000 tons, which at 2 dollars per ton would be worth 107,032,860,000 dollars. The total number of collieries at present in operation in the Pittsburg coal-fields, embracing the whole range which we have described, is 103; hands employed, 6,424; value of lands, 7,589,700 dollars; value of annual coal product, 5,000,000 dollars.

"It is impossible to point out in figures the influence of the coal trade on the birth and growth of Pittsburg. It has opened the way for all our great manufactories, gives employment to nearly 7,000 miners, and twice as many artizans; has made men wealthy, built our churches, educational institutions, and charity schools. In fact, coal is Pittsburg. It built Pittsburg, made it a rich, populous city; put into its coffers such abundant solid wealth, that when the rebellion came it lost 30,000,000 dollars without shaking its credit!"

External Trade in Coal.

With regard to the foreign trade of this country I annex, as in my first Report, statements prepared for the first time by the new Bureau of Statistics of the Treasury Department, exhibiting the imports and exports of coal from all parts generally, and then separately, from and to England, Scotland, Ireland, Canada, and other British North-American Possessions, into and from the United States during the fiscal years ending June 30th, 1865 and 1866 respectively.

A statement of the imports from Canada and other British North-American Possessions during the same periods, exhibiting the "imports of coal," "other articles," and "total," under the Reciprocity Treaty; a tabular statement of "other articles" free under General Tariff Acts, with "total free," "total dutiable," and "total imported."

It appears, then, from these tables—made out in tons of 2,240lbs.—that for the fiscal periods above mentioned, the quantity of coal imported free of duty under the Reciprocity Treaty was, for 1865, 466,307 tons; and for 1866, 351,560 tons. It will be remenbered that the Reciprocity Treaty ceased to have effect on the 16th of March of this year, the American Government having notified their desire to terminate it. From this date, therefore, British provincial coal would pay the foreign rate of 1·25 dollar a ton, and be included with all other coal as duty-paying imports.

Of coals paying duty there were imported in the order named 218,986 tons and 292,556 tons; of foreign coal re-exported, 912 tons and 7,250 tons; of domestic coal exported, 132,438 tons and 142,857 tons.

The distribution of the 218,986 tons of imported coal, according to the latest published Returns of Commerce and Navigation, for 1865, was as follows:—

	Tons.		Tons.
Danish West Indies	249	British American Possessions on the Pacific	2,722
Dutch Guiana	30	British West Indies	1,762
England	204,804	Australia	1,059
Scotland	6,337	France on the Atlantic ..	300
Ireland	182	Cuba	87
Canada	116	Chile	1,182
Other British North American Possessions on the Atlantic ..	148	China	8
		Total	218,986

Of the foreign coal re-exported, the following was the distribution of the 912 tons:—

	Tons.		Tons.
Canada	2	Chile	809
Mexico	101		
		Total	912

132,438 tons of domestic coal, were exported to various countries, as follows:—

	Tons.		Tons.
Russia on the Baltic and White Seas	25	French North American Possessions	15
Sweden and Norway	3	Cuba	1,504
Bremen	100	Azores	290
Dutch West Indies	1,212	Hayti	5,434
Dutch East Indies	146	Mexico	166
Gibraltar	5	Central America	4,114
Canada	71,862	New Grenada	26,563
Other British American Provinces on the Atlantic ..	4,119	Venezuela	1
		Brazil	2,405
British American Provinces on the Pacific	291	Uruguay and Cis-platine Republic	386
British West Indies	10	Chile	278
British Honduras	30	Sandwich Islands	691
British Australia	100	China	11,988
France on the Atlantic ..	700		
		Total	132,438

On a comparison of these Returns with those noted in my previous Report, the following seems to be the rate of increase or decrease:—

Coal Imports under Reciprocity Treaty.

	Tons.	
1864 ..	317,504	
1865 ..	466,037	Increase of 148,533 tons.
1866 ..	351,560	Decrease of 114,477 tons.

Her Majesty's Consul at Boston informs me that since the termination of the Treaty "there has been a falling off in the

quantity of coal imported of about 30 per cent., a decline in price of 20 per cent. at the shipping port, and a similar decline in freight, which affects British vessels."

IMPORTS paying Duty.

	Tons.	
1864 ..	250,234	
1865 ..	218,986	Decrease of 31,248 tons.
1866 ..	292,564	Increase of 73,578 tons.

EXPORTS of Domestic Coal.

	Tons.	
1864 ..	173,038	
1865 ..	132,438	Decrease of 40,600 tons.
1866 ..	142,857	Increase of 10,419 tons.

In conclusion, I would beg to enclose a Report which I have received from Mr. Acting Consul Wilkins, on the coal fields of Illinois.

We may safely say that seven-eighths of the entire State of Illinois is underlaid with from one to three veins of bituminous coal varying from 3 to 7 feet in thickness.

The price of this coal is from 3 to 4 dollars at the mouth of the pit.

(Signed) J. HUME BURNLEY.

Washington, October 28, 1866.

(No. 1.)—Anthracite Coal Trade of the United States.

The following Table exhibits the Anthracite Coal sent to Market from the different regions in Pennsylvania, from the commencement of the Trade in 1820, to 1865 inclusive, to which is appended the Semi-Anthracite Trade, and the Cumberland Bituminous Trade.

In making up this table the coal transported over all the railroads are given in full; but a large portion of the coal is transported over two or more roads from the same regions. In our tables the coal reported double is separated, deducted, and credited to the different regions. No person but one acquainted with the whole trade, and who can separate the coal reported by the different carrying Companies, can make up a correct Report of the Anthracite Coal Trade. This requires a great deal of time, labour, and patience.

HARD ANTHRACITES.

Years.	Schuylkill.					Sold on Line of Schuylkill.	Lehigh.		
	Canal.	Railroad.	Total.	Pinegrove.	Little Schuylkill.		Canal.	Railroad.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1820	..	..	..	..	..	..	365	..	365
1821	..	..	..	..	..	..	1,073	..	1,073
1822	1,480	..	1,480	..	..	..	2,240	..	2,240
1823	1,128	..	1,128	..	..	..	5,823	..	5,823
1824	1,567	..	1,567	..	..	..	9,541	..	9,541
1825	6,500	..	6,500	..	..	..	28,393	..	28,393
1826	16,767	..	16,767	..	..	..	31,280	..	31,280
1827	31,360	..	31,360	..	..	..	32,074	..	32,074
1828	47,284	..	47,284	..	..	3,154	30,232	..	30,232
1829	79,973	..	79,973	..	..	3,332	25,110	..	25,110
	186,059	..	186,059	..	..	7,486	166,131	..	166,131
1830	89,984	..	89,984	..	..	5,321	41,750	..	41,750
1831	81,854	..	81,854	..	..	6,150	40,966	..	40,966
1832	209,271	..	209,271	..	14,000	10,048	70,000	..	70,000
1833	252,971	..	252,971	..	40,000	13,429	123,000	..	123,000
1834	226,692	..	226,692	..	34,000	19,429	106,244	..	106,244
1835	339,508	..	339,508	..	41,000	18,571	131,250	..	131,250
1836	432,045	..	432,045	..	35,000	17,863	148,211	..	148,211
1837	523,152	..	523,152	17,000	31,000	21,749	223,902	..	223,902
1838	433,875	..	433,875	13,000	13,000	28,775	213,615	..	213,615
1839	442,608	..	442,608	20,539	9,000	30,390	221,025	..	221,025
	3,031,960	..	3,031,960	50,539	217,000	171,725	1,319,963	..	1,319,963

HARD ANTHRACITES.

Years.	Schuylkill.					Sold on Line of Schuylkill.	Lehigh.		
	Canal.	Railroad.	Total.	Pinegrove.	Little Schuylkill.		Canal	Railroad.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1840	452,291	..	452,291	23,860	20,000	28,924	225,318	..	225,318
1841	584,692	850	585,542	17,653	40,000	41,223	143,037	..	143,037
1842	491,602	49,902	541,504	32,381	37,000	40,584	272,546	..	272,546
1843	447,058	230,254	677,312	22,905	31,000	34,619	267,793	..	267,793
1844	398,887	441,491	840,378	34,916	57,000	60,000	377,002	..	377,002
1845	263,587	820,237	1,083,796	47,928	74,000	90,000	429,453	..	429,453
1846	3,440	1,233,142	1,236,582	58,926	91,000	155,460	517,116	..	517,116
1847	222,693	1,360,681	1,583,374	67,457	106,401	226,610	633,507	..	633,507
1848	436,602	1,216,233	1,652,835	61,530	162,626	252,837	670,321	..	670,321
1849	489,208	1,115,918	1,605,126	78,299	174,758	239,290	781,656	..	781,656
	3,790,360	6,468,708	10,358,740	445,855	793,788	1,169,547	4,317,749	..	4,317,749
1850	288,030	1,423,977	1,712,007	70,919	211,960	207,683	690,456	..	690,456
1851	579,156	1,650,270	2,229,426	None.	310,307	312,367	964,224	..	964,224
1852	800,038	1,650,912	2,450,950	66,543	325,099	322,211	1,072,136	..	1,072,136
1853	888,695	1,582,248	2,470,943	80,660	389,295	394,078	1,054,309	..	1,054,309
1854	907,354	1,987,854	2,895,208	91,462	444,184	444,160	1,207,186	..	1,207,186
1855	1,105,263	2,213,292	3,318,555	112,213	426,208	471,861	1,275,050	9,063	1,284,113
1856	1,169,453	2,088,903	3,258,356	157,152	454,515	520,499	1,186,230	165,740	1,351,970
1857	1,275,989	1,709,552	2,985,541	145,012	346,877	511,977	900,314	418,235	1,318,541
1858	1,323,804	1,542,645	2,866,449	137,376	383,931	441,166	909,000	471,030	1,380,030
1859	1,372,021	1,632,932	3,004,953	125,262	366,343	554,774	1,050,659	577,652	1,628,311
	9,709,803	17,482,585	27,192,390	986,599	3,658,719	4,181,156	10,309,564	1,641,720	11,951,286
1860	1,356,688	1,878,156	3,270,516	152,957	323,136	608,877	1,091,032	730,642	1,821,674
1861	1,183,570	1,460,832	2,697,489	167,357	171,432	435,320	994,705	743,672	1,738,377
1862	981,729	2,305,606	2,890,598	183,985	249,451	545,916	396,227	882,573	1,351,054
1863	885,842	3,065,261	3,433,265	212,794	385,788	671,589	699,558	1,195,155	1,894,713
1864	1,000,000	3,065,577	3,642,218	211,216	537,498	748,448	758,087	1,295,419	2,054,669
1865	1,022,740	3,090,814	3,735,802	157,840	585,534	746,629	888,784	1,402,277	2,040,913
	23,143,151	38,767,539	60,422,057	2,569,142	6,922,106	9,266,693	20,942,800	7,861,458	28,656,599

HARD ANTHRACITES.

Years.	Wyoming Region.							Shamokin.	Aggregate.	Annual Increase.
	By Lehigh Railroad.	Delaware and Hudson Coal Company.	Pennsylvania Coal Company.	By Canals.	Great Western Railroad.	L. and B. Railroad.	Total.			
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1820 ..	..	..	..	..	..	..	..	..	365	..
1821 ..	..	..	..	..	..	..	..	..	1,075	708
1822 ..	..	..	..	..	..	..	..	..	3,720	2,647
1823 ..	..	..	..	..	..	..	..	..	6,951	3,231
1824 ..	..	..	..	..	..	..	..	..	11,108	4,157
1825 ..	..	..	..	..	..	..	..	..	34,893	23,785
1826 ..	..	..	..	..	..	..	..	..	48,047	13,154
1827 ..	..	..	..	..	..	..	..	..	63,434	15,387
1828 ..	..	..	..	..	..	..	..	..	77,156	14,082
1829 ..	..	7,000	..	..	..	..	7,000	..	112,083	34,567
	..	7,000	..	..	..	..	7,000	..	359,190	..
1830 ..	..	43,000	..	..	..	..	43,000	..	174,734	62,651
1831 ..	..	54,000	..	..	..	..	54,000	..	176,820	2,086
1832 ..	..	84,600	..	..	..	..	84,600	..	363,871	187,051
1833 ..	..	111,777	..	..	..	..	111,777	..	487,748	123,877
1834 ..	..	43,700	..	..	..	..	43,700	..	376,636	111,112
1835 ..	..	90,000	..	..	..	..	90,000	..	560,758	184,122
1836 ..	..	103,861	..	..	..	..	103,861	..	684,117	123,359
1837 ..	..	115,387	..	..	..	..	115,387	..	879,444	195,327
1838 ..	..	78,207	..	..	..	..	78,207	..	738,697	140,747
1839 ..	..	122,300	..	..	..	..	122,300	11,930	818,402	79,805
	..	846,832	..	..	..	..	846,832	11,930	5,261,197	..

HARD ANTHRACITES.

Years.	Wyoming Region.							Shamokin.	Aggregate.	Annual Increase.
	By Lehigh Railroad.	Delaware and Hudson Coal Company.	Pennsylvania Coal Company.	By Canals.	Great Western Railroad.	L. and B. Railroad.	Total.			
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1840 ..	..	148,470	..	..	..	..	148,470	15,505	864,384	45,982
1841 ..	..	192,270	..	..	..	..	192,270	21,463	959,973	95,589
1842 ..	..	205,253	..	47,346	..	..	252,599	10,000	1,108,418	148,445
1843 ..	..	227,605	..	58,000	..	..	285,605	10,000	1,263,598	155,180
1844 ..	..	251,005	..	114,906	..	..	365,911	13,087	1,630,850	367,252
1845 ..	..	273,435	..	178,401	..	..	451,836	10,000	2,013,013	382,163
1846 ..	5,886	320,000	..	192,503	..	..	518,389	12,572	2,344,005	330,992
1847 ..	10,466	388,203	..	284,398	..	..	583,067	14,904	2,882,309	538,304
1848 ..	10,425	437,500	..	237,271	..	..	685,196	19,356	3,089,238	206,929
1849 ..	19,590	454,240	..	259,080	..	..	732,910	19,650	3,217,641	128,403
	46,367	2,897,981	..	1,371,905	..	..	4,216,253	146,537	19,373,429	..
1850 ..	32,156	441,403	111,014	243,250	..	..	827,823	19,921	3,321,136	103,495
1851 ..	25,072	479,078	316,017	336,000	..	..	1,156,167	24,899	4,329,530	1,008,394
1852 ..	41,890	497,105	426,164	319,341	..	..	1,284,500	25,846	4,899,975	570,445
1853 ..	26,235	494,327	512,659	442,511	..	..	1,475,732	15,500	5,097,144	197,169
1854 ..	39,232	440,944	496,648	492,689	133,965	..	1,603,478	63,500	5,831,834	734,690
1855 ..	50,209	565,460	504,803	464,039	187,000	..	1,771,511	116,117	6,486,097	654,263
1856 ..	44,270	499,650	612,500	510,631	305,530	..	1,972,581	137,406	6,751,542	256,445
1857 ..	37,959	480,699	536,008	407,914	490,023	..	1,952,603	155,806	6,431,378	320,164
1858 ..	69,644	348,789	630,056	346,430	683,411	210,042	2,186,094	135,893	6,524,838	93,460
1859 ..	71,399	591,000	688,854	453,548	829,435	223,805	2,731,236	180,753	7,517,516	1,092,678
	438,066	4,838,455	4,834,723	4,016,353	2,629,364	433,848	16,961,725	875,641	56,954,864	..
1860 ..	100,277	499,568	701,523	435,306	1,080,227	519,777	2,941,817	210,108	8,143,938	626,422
1861 ..	111,073	726,644	629,657	316,765	1,104,319	648,399	3,055,140	241,451	7,621,354	522,665
1862 ..	26,723	637,066	601,091	559,246	1,094,315	767,661	3,145,770	241,642	7,499,552	121,799
1863 ..	..	828,150	662,904	662,721	1,223,165	964,753	3,759,610	274,936	9,427,619	1,937,064
1864 ..	9,314	852,136	759,544	630,142	1,302,457	929,374	3,960,836	333,478	9,998,046	564,388
1865 ..	250,694	759,575	577,482	358,463	1,007,074	674,744	3,254,519	457,162	9,488,396	509,650
	982,514	12,893,422	8,760,923	8,350,901	9,440,921	4,938,556	42,050,008	2,992,885	134,121,549	..

SEMI-ANTHRACITE AND BITUMINOUS.

Years.	Lykens Valley.	Short Mountain.	Dauphin County.	Trevorton.	Broad Top.	Cumberland.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1820	..	..	..	..	..	..	..
1821	..	..	..	..	..	..	..
1822	..	..	..	..	..	..	..
1823	..	..	..	..	..	..	..
1824	..	..	..	..	..	..	..
1825	..	..	..	..	..	..	..
1826	..	..	..	..	..	..	..
1827	..	..	..	..	..	..	..
1828	..	..	..	..	..	..	..
1829	..	..	..	..	..	..	..
1830	..	..	..	..	..	..	..
1831	..	..	..	..	..	..	..
1832	..	..	..	..	..	..	..
1833	..	..	..	..	..	..	..
1834	..	..	..	..	..	..	..
1835	..	..	..	..	..	..	..
1836	..	..	..	..	..	..	..
1837	..	..	..	..	..	..	..
1838	..	..	..	..	..	..	..
1839	..	..	..	..	..	..	..
1840	..	..	..	..	..	..	..
1841	..	..	..	..	..	..	..
1842	..	..	..	..	..	1,708	1,708
1843	..	..	..	..	..	10,082	10,082
1844	..	..	..	..	..	14,890	14,890
1845	..	..	..	..	..	24,653	24,653
1846	..	..	..	..	..	29,795	29,795
1847	..	..	..	..	..	52,940	52,940
1848	..	..	..	..	..	79,571	79,571
1849	25,325	..	..	..	..	142,449	167,774
	25,325	..	..	..	..	356,088	381,413
1850	37,763	..	..	..	..	198,848	234,611
1851	54,200	..	20,000	..	..	257,679	331,879
1852	59,857	..	33,639	..	..	334,178	427,674
1853	69,007	..	29,000	..	..	533,980	631,987
1854	57,500	50,000	63,000	..	..	659,681	830,181
1855	66,721	50,500	1,000	..	..	662,272	780,493
1856	61,187	41,739	..	73,112	42,000	706,450	924,488
1857	65,201	56,538	..	110,711	78,813	582,486	893,749
1858	72,398	55,447	..	106,686	105,478	649,656	989,665
1859	67,564	71,148	..	124,290	130,595	726,354	1,119,951
	611,398	325,372	146,639	414,799	356,886	5,309,584	7,164,678
1860	78,208	100,652	..	90,148	186,903	788,909	1,244,820
1861	81,000	91,380	..	49,477	272,625	336,930	831,412
1862	82,062	95,119	..	63,223	333,606	238,804	813,754
1863	77,608	63,674	..	62,200	305,678	657,050	1,166,210
1864	68,021	61,952	..	56,301	386,645	665,605	1,238,524
1865	61,405	75,495	..	27,095	315,996	903,495	1,383,486
	1,084,967	813,644	146,639	763,243	2,158,339	9,437,385	14,241,578

(No. 2.)—STATEMENT exhibiting the Imports and Exports of Coal annually during the years ending June 30, 1865 and 1866 respectively.

IMPORTED.

Years.	Free of Duty under Reciprocity Treaty.		Paying Duty.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.		Dollars.
1865 ..	466,037	1,210,004	218,986	568,076	685,073	1,778,080
1866 ..	351,560	875,732	292,564	859,911	644,124	1,735,643
	817,597	2,085,736	511,560	1,427,987	1,329,157	3,513,723

EXPORTED.

Year.	Foreign.		Domestic.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.		Dollars.
1865 ..	912	3,437	132,438	1,348,371	133,350	1,351,108
1866 ..	7,250	79,302	142,857	1,079,738	150,107	1,159,040
	8,162	82,739	275,295	2,428,109	283,457	2,510,848

STATEMENT exhibiting the Quantity and Value of Coal Imported to England, Scotland, Ireland, Canada, and other British North American Possessions during the years ending June 30, 1865 and 1866 respectively.

ENGLAND.

Imported.

Years.	Paying Duty.		Total.	
	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.
1865..	204,804	520,718	204,804	520,718
1866..	164,631	462,364	164,631	462,364
	369,435	983,082	369,435	983,082

Exported.

Years.	Domestic.		Total.	
	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.
1865..	..	..	..	..
1866..	247	2,291	247	2,291
	247	2,291	247	2,291

SCOTLAND.

Imported.

Years.	Paying Duty.		Total.	
	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.
1865..	6,337	15,076	6,337	15,076
1866..	5,389	12,117	5,389	12,117
	11,726	27,193	11,726	27,193

Exported.

Nil.

IRELAND.

Imported.

Years.	Paying Duty.		Total.	
	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.
1865..	182	529	182	529
1866..	..	..	..	..
	182	529	182	529

Exported.

Nil.

CANADA.

Imported.

Years.	Paying Duty.		Total.	
	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.
1865..	116	819	116	819
1866..	5,167	20,150	5,167	20,150
	5,283	20,969	5,283	20,969

Exported.

Years.	Foreign.		Domestic.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.		Dollars.
1865 ..	2	13	71,862	766,967	71,864	776,980
1866 ..	..	..	62,773	472,874	62,773	472,874
	2	13	134,637	1,239,854	134,637	1,239,854

OTHER BRITISH NORTH AMERICAN POSSESSIONS.

Imported.

Years.	Paying Duty.		Total.	
	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.
1865..	2,870	13,158	2,870	13,158
1866..	70,267	223,741	70,267	223,741
	73,137	236,899	73,137	236,899

Exported.

Years.	Domestic.		Total.	
	Tons.	Value.	Tons.	Value.
		Dollars.		Dollars.
1865..	4,410	48,827	4,410	48,827
1866..	7,303	52,197	7,303	52,197
	11,713	101,024	11,713	101,024

STATEMENT exhibiting the Importations from Canada and other British North American Possessions into the United States during the fiscal years ending June 30, 1865 and 1866 respectively.

Years.	Free of Duty.						Dutiable.	Total Imports.
	Under Reciprocity Treaty.				Under General Tariff Acts.	Total Free.		
	Coal.		Other Articles.	Total Receipts.				
	Tons.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
1865 ...	466,037	1,210,004	29,359,664	30,569,668	5,437,357	36,007,025	1,301,443	37,308,468
1866 ...	351,560	875,732	38,706,773	39,582,505	9,623,215	49,205,720	5,499,187	54,704,907
	817,597	2,085,736	68,066,437	70,152,173	15,060,572	85,212,745	6,800,630	92,013,375

Treasury Department, Bureau of Statistics,
October 20, 1866.
(Signed) D. W. HAINES, *Chief Clerk.*

Inclosure.

Report of Acting Consul Francis Wilkins on the Coal Fields of Illinois.

THE whole Coal field called "The Great Illinois Coal Field," extends from Illinois into Indiana and Kentucky, and contains 55,000 square miles of coal, of which Illinois contains 35,000 square miles, Indiana 9,000 and Kentucky 11,000. The average of all this area would yield about 5,000 tons per acre, all bituminous coal.

The State of Illinois contains the largest continuous beds of bituminous coal of any State in the Union, covering, as above

stated, an area of 35,000 square miles, and including seventy-five counties. The northern portion of the State comprising 17,000 square miles has no coal, and a part of the western side of the State comprising 5,000 square miles likewise contains no coal. The amount of coal actually mined in the State of Illinois during the last year would be about 1,500,000 tons.

The most important coal fields now worked in the State, are Belleville, St. Clair county, about fourteen miles from St. Louis, from which point 330,000 tons were shipped to St. Louis during the last year, the Du Quoin district, Perry county, in which 250,000 tons have been worked during the same period, La Salle, La Salle county, which yielded 250,000 tons. The Coal Valley district, eleven miles from Rock Island, from which were produced 170,000 tons, Wilmington, Will County, about fifty miles from Chicago, from which were shipped 150,000 tons, and Danville, Vermillion County, from which 100,000 tons were taken. In addition to these, Peoria District, Peoria County, produced about 75,000 tons, Canton, Fulton County, about 25,000 tons, Fairbury, Livingstone County, about 15,000 tons, the Coal Fields at Kingston and Lancaster, on the Illinois River, below Peoria, about 20,000 tons, Sheffield and Jiskilwa, on the Rock Island Railway, about 10,000 tons, Alton, Madison County, about 8,000 tons, and Neelyville, Morgan County, about 10,000 tons.

The whole coal field contains an average of four workable seams comprised within 400 feet from the surface, each vein being an average of 100 feet from each other vein. The average thickness of the first vein is 4 feet; of the second, 4½ feet; of the third, 6 feet; and of the fourth, 4 feet; the lowest vein generally containing the best quality of coal. Of all these coals the Wilmington is considered the best. Available coal lies at an average of 75 feet from the surface. In many places ravines cut through the mines, giving drift mining. The average value of the coal at the mines would be about 4 dollars per ton. The sale at Chicago and St. Louis would average 7 or 8 dollars per ton. The amount of coal consumed in Chicago this year would be about 500,000 tons, of which about 280,000 tons come from Ohio and Pennsylvania, and the remainder from Illinois.

Five years ago the coal worked in Illinois was estimated at 650,000 tons. The increase in the consumption of coal in this district is chiefly attributable to the rapid increase of the community and the consumption by railways.

There is no importation of coal into this district from Great Britain, or any of the Provinces, nor from any other foreign countries.

(Signed) FRANCIS WILKINS.

Chicago, November 20, 1866.

ZOLLVEREIN.

Extract of Report by Mr. Bonar, dated January 15, 1866.

MINES (1863).

Coal—		Lignite—	
Number of works ..	671	Number of works ..	843
	Cwts.		Cwts.
Produce	338,134,152	Produce	109,189,899
	Thalers.		Thalers.
Value	28,489,558	Value	5,061,241
Workmen employed ..	90,561	Workmen employed.	20,060

The consumption of coal in particular is so constantly and largely increasing throughout Germany for the service of the iron works and numerous manufactories, that even the rich veins of Prussia can hardly meet the demand, and much discontent and ill-will towards the latter State has been caused in consequence, by her recent contract with France for supply of coals from the mines of Saarbruck.

After Great Britain, the German Zollverein is, of all countries, the most considerable producer of coal, and yielded in the year 1863, as already shown, circa 447,500,000 cwt., and in the following proportions, as regards the several States of the Customs and Commercial Union who are fortunate enough to possess that mineral.

The principal ones are as follows :—

	Cwt.		Cwt.
Prussia, circa ..	366,000,000	Bavaria, circa ..	5,000,000
Saxony ,, ..	46,000,000	Hesse ,, ..	5,000,000
Anhalt ,, ..	8,000,000	Altenburg ,, ..	3,000,000
Hanover ,, ..	6,000,000		

But the coal of Germany is usually of a description far inferior to that of England. It is mostly to be classed among the lignites, the so-called "steinkohlen" of Germany being only of a better, and the "braunkohlen" of an inferior quality, of that denomination.

Extract from Report by Mr. Corbett on the Mining Statistics of the Zollverein.

THE following general review of the mining and smelting industry within the limits of the Zollverein is an abstract of the last Returns which have been published relating to this subject; they come down to the end of the year 1863.

Especial attention is directed to the coal and iron Returns on

account of the intimate connection which exists between these minerals as regards price, a cheap production of coal insuring a cheap smelting of iron ore, and as these two stand foremost in the list of the most important articles of industry and commerce, and conduce most largely to the comfort and well-being of the population in general.

MINES.

	Number of Mines.	Production.	Value.	Workmen.
I. *Coal.*		Zoll. centners.*	Thalers.†	
1861	701	282,660,969	26,927,134	86,420
1862	688	311,525,560	27,699,298	88,206
1863	671	338,134,152	28,489,558	90,561
II. *Anthracite.*				
1861	822	92,446,241	4,434,966	18,735
1862	833	101,687,984	4,703,363	19,648
1863	843	109,189,899	5,061,241	20,060
III. *Iron Ore.*				
1861	2,458	36,165,400	2,980,029	21,434
1862	2,347	44,320,414	3,601,008	23,754
1863	2,018	47,494,909	3,915,992	23,540

A comparison of the above figures shows throughout a considerable increase both as regards production and value of the produce at the place of extraction.

The increase of production as regards coal amounts to 55,473,183 centners; anthracite to 16,743,658 centners; and iron ore to 11,329,508 centners.

* 0·9875 centner equal to 1 cwt.
† 1 thaler equal to 1*s.* 11*d.* English.

REFORM CLUB
PALL MALL

APPENDIX.

Extracts from Commercial Reports by Her Majesty's Consuls.

ALEXANDRIA.

Colonel Stanton to Lord Stanley.

My Lord, *Alexandria, August* 15, 1866.

I HAVE the honour to report to your Lordship that, in obedience to the instructions contained in Earl Russell's circular despatch of the 3rd May, 1865, calling for information as to the extent to which coal is imported into or exported from different countries, I requested Her Majesty's Consuls at Alexandria and Suez, and the Vice-Consul at Damietta, to furnish me annually with Returns showing the import of coal into the ports of Alexandria, Suez, and Damietta, and the ratio in which the supply is drawn from Great Britain or from other sources; and I now beg leave to forward to your Lordship a Tabular statement, showing the imports of coal and coke into the port of Alexandria from British ports during the years 1864 and 1865, which has been furnished me by Her Majesty's Consul at that port. This Return shows an increase of 23,456 tons of coal and of 31,906 tons of coke in the importations of the year 1865 over the previous year; the increase may be accounted for by the extension of steam machinery for purposes of irrigation throughout Egypt, and, I imagine, the importations of coal and coke are likely to increase for some years.

Her Majesty's Consul at Suez reports that no coal has been imported into Suez by sea during the past twelve months, the supply for that port having been drawn from Alexandria; it appears, also, from the report of the Vice-Consul at Damietta, that the coal imported at that port is brought from Alexandria, but that 5,680 tons of coal were imported into Port Saïd from Great Britain during the past year.

The importations into the last-named port will probably be considerably increased during the present year, as the consumption of coal on the works of the Suez Canal is supposed to amount to about 30,000 tons per annum, and it is probable the whole amount

required for these works will in future be imported direct at Port Said.

I have, &c.
(Signed) EDWD. STANTON.

COMPARATIVE STATEMENT of Coals and Coke Imported into Alexandria (Egypt) from all the principal places in England, Scotland, and Wales, during the Years 1864 and 1865.

1864.

Place of Shipment.	January.		February.		March.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	12,646	4,164	4,491	1,971	8,469	986
Sunderland	2,885	1,391	2,087	594	1,873	..
Hartlepool	1,404	..	..	..	440	..
Blyth	..	..	..	..	..	..
Middlesborough	..	..	..	..	..	..
Yorkshire Ports—						
Grimsby	..	..	..	..	..	..
Hull	..	..	..	..	..	..
Liverpool	439	..	1,902	..	..	..
Scotch Ports—						
Glasgow	..	..	95	..	..	..
Ardrossan	..	..	..	..	..	..
Troon	..	..	..	..	..	..
Bowling Bay	..	..	..	..	..	..
Severn Ports—						
Cardiff	4,313	..	1,570	..	3,642	..
Swansea	..	..	1,010	..	460	..
Newport	400	..	200	..	..	..
Total	22,087	5,555	11,355	2,565	14,884	986

Place of Shipment.	April.		May.		June.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	3,135	1,710	8,658	1,267	37,159	640
Sunderland	1,631	453	7,120	..	7,003	793
Hartlepool	..	545	..	..	..	..
Blyth	..	..	..	..	..	..
Middlesborough	..	..	..	..	..	..
Yorkshire Ports—						
Grimsby	..	..	..	..	..	..
Hull	..	..	..	..	..	..
Liverpool	..	..	2,443	..	2,168	..
Scotch Ports—						
Glasgow	..	..	..	..	..	..
Ardrossan	..	..	..	..	..	..
Troon	..	..	..	..	..	..
Bowling Bay	..	..	..	..	..	..
Severn Ports—						
Cardiff	1,758	..	5,933	..	6,509	..
Swansea	..	..	1,000	..	4,541	..
Newport	..	..	..	..	..	..
Total	6,524	2,708	25,154	1,267	57,380	1,433

Place of Shipment.	July.		August.		September.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	31,119	1,026	10,064	985	10,969	858
Sunderland	6,855	365	3,504	..	2,924	460
Hartlepool	1,200	..	1,950	..	..	..
Blyth	..	..	..	..	..	..
Middlesborough	..	..	..	..	..	..
Yorkshire Ports—						
Grimsby	..	..	..	..	400	..
Hull	..	..	..	..	..	..
Liverpool	3,210	..	1,054	..	273	..
Scotch Ports—						
Glasgow	..	..	..	..	..	..
Ardrossan	..	..	..	..	..	..
Troon	..	..	..	..	..	..
Bowling Bay	..	..	..	..	..	..
Severn Ports—						
Cardiff	5,850	..	5,160	..	4,556	..
Swansea	1,340	..	548	..	968	..
Newport	..	..	..	..	..	..
Total	49,574	1,391	22,280	985	20,090	1,318

Place of Shipment.	October.		November.		December.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	14,651	1,010	12,206	1,280	16,540	6,855
Sunderland	1,977	614	1,027	..	3,138	..
Hartlepool	..	..	..	..	..	..
Blyth	..	..	..	..	..	..
Middlesborough	..	..	..	..	..	..
Yorkshire Ports—						
Grimsby	..	..	..	..	..	..
Hull	63	..	..	..	400	..
Liverpool	1,254	..	504	..	724	..
Scotch Ports—						
Glasgow	..	..	..	..	300	..
Ardrossan	..	..	..	..	..	..
Troon	..	..	..	..	..	..
Bowling Bay	..	..	..	..	..	..
Severn Ports—						
Cardiff	2,709	..	5,412	..	8,918	..
Swansea	808	..	1,626	..	1,647	..
Newport	..	..	419	..	..	..
Total	21,462	1,624	21,194	1,280	31,667	6,855

1865.

Place of Shipment.	January.		February.		March.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	16,622	5,034	9,942	1,892	10,059	3,670
Sunderland	4,038	1,584	2,802	572	2,586	2,005
Hartlepool	..	..	..	..	..	..
Blyth	..	..	..	..	..	..
Middlesborough	..	..	..	..	..	..
Yorkshire Ports—						
Grimsby	..	..	..	..	..	..
Hull	..	..	..	..	..	..
Liverpool	1,313	..	968	..	600	..
Scotch Ports—						
Glasgow	..	..	..	..	..	..
Ardrossan	..	..	..	..	..	..
Troon	..	..	..	..	..	..
Bowling Bay	..	..	..	..	..	..
Severn Ports—						
Cardiff	6,333	..	9,572	..	9,231	..
Swansea	540	..	2,145	..	1,523	..
Newport	..	..	693	..	..	..
Total	28,846	6,618	26,122	2,464	23,999	5,675

Place of Shipment.	April.		May.		June.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	10,715	3,560	11,711	4,334	4,314	1,234
Sunderland	4,355	1,347	2,228	1,095	3,766	965
Hartlepool	..	..	..	..	..	..
Blyth	485	..	..	..	..	..
Middlesborough	510	..	..	..	..	..
Yorkshire Ports—						
Grimsby	..	..	..	..	1,150	..
Hull	..	..	29	..	..	..
Liverpool	..	..	720	..	1,826	..
Scotch Ports—						
Glasgow	..	..	..	..	..	..
Ardrossan	..	..	..	..	..	..
Troon	..	..	..	..	..	..
Bowling Bay	..	..	..	..	..	..
Severn Ports—						
Cardiff	5,462	..	3,330	671	1,911	598
Swansea	310	..	1,085	..	1,505	..
Newport	..	..	..	..	..	..
Total	21,837	4,907	19,103	6,100	14,472	2,797

Place of Shipment.	July.		August.		September.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	2,583	2,326	5,106	1,181	17,585	2,676
Sunderland	2,292	537	3,711	..	10,311	2,516
Hartlepool	..	..	..	300	..	..
Blyth	..	..	..	..	..	..
Middlesborough	..	..	..	..	..	..
Yorkshire Ports—						
Grimsby	..	..	..	..	370	..
Hull	..	..	..	..	..	..
Liverpool	..	673	..	..	3,190	..
Scotch Ports—						
Glasgow	..	..	..	..	..	..
Ardrossan	..	..	..	..	1,766	..
Troon	..	..	..	..	..	..
Bowling Bay	..	..	..	..	100	..
Severn Ports—						
Cardiff	3,008	..	5,743	..	4,942	..
Swansea	..	..	1,870	..	871	..
Newport	..	..	389	..	..	..
Total	7,883	3,536	16,819	1,481	39,135	5,192

Place of Shipment.	October.		November.		December.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—						
Newcastle and Shields	30,446	6,790	33,748	4,713	16,498	5,006
Sunderland	6,285	1,808	5,278	..	4,987	1,029
Hartlepool	..	..	100	..	..	..
Blyth	403	..	..	..	..	..
Middlesborough	..	..	..	..	..	..
[illegible]shire Ports—						
[illegible]by	1,780	..	..	..	..	..
[illegible]	..	..	..	1,334	..	423
[illegible]	2,218	..	5,364	..	2,132	..
[illegible]	100	..	..	..	..	..
[illegible]	506	..	490	..	521	..
[illegible]	..	..	..	..	637	..
[illegible]	..	..	..	..	..	..
[illegible]			4,622	..	3,752	..
[illegible]			1,035	..	386	..
[illegible]			500	..	..	..
[illegible]			137	6,047	28,913	6,458

Place of Shipment.	Total, 1864.		Total, 1865.		Difference in 1865 from each Port.			
					Increase.		Decrease.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Northern Ports—								
Newcastle and Shields	170,107	22,752	169,329	42,416	..	19,664	778	..
Sunderland ..	42,024	4,670	52,639	13,458	10,615	8,788	..	..
Hartlepool. ..	4,994	545	100	300	..	..	4,894	245
Blyth	..	..	888	..	888	..	..	..
Middlesborough ..	..	..	510	..	510	..	..	..
Yorkshire Ports—								
Grimsby	400	..	3,300	..	2,900	..	..	..
Hull	463	..	29	1,757	..	1,757	434	..
Liverpool	13,971	..	18,331	673	4,360	673	..	..
Scotch Ports—								
Glasgow	395	..	100	..	..	..	295	..
Ardrossan . ..	..	..	3,283	..	3,283	..	..	..
Troon	..	..	637	..	637	..	..	..
Bowling Bay ..	..	..	100	..	100	..	..	..
Severn Ports—								
Cardiff	56,330	..	64,145	1,269	7,815	1,269	..	..
Swansea	13,948	..	11,770	..	..	..	2,178	..
Newport	1,019	..	1,946	..	927	..	..	..
Total . ..	303,651	27,967	327,107	59,873	32,035	32,151	8,579	245

Monthly Difference throughout 1865.

	January.		February.		March.		April.		May.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Increase	6,759	1,063	14,767	..	9,115	4,689	15,313	2,199	..	4,833
Decrease	..	..	..	101	..	..	..	..	6,051	..

	June.		July.		August.		September.		October.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Increase	..	1,364	..	2,145	..	496	19,045	3,874	27,379	6,974
Decrease	42,908	..	41,691	..	5,461	..	..	..	..	..

	November.		December.		Total.		Increase.	
	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.	Coals.	Coke.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Increase	29,943	4,767	..	..	122,321	32,404	23,456	31,906
Decrease	..	..	2,754	397	98,865	498	..	..

Monthly Average Rates of Freight in England on Coals, and Prices of Ready Coals ex Sailing Ships in Alexandria, from the undermentioned Ports, during 1864 and 1865.

1864.

	January.	February.	March.	April.	May.	June.	July.
Northern Ports—							
Freight per	32*l.*	33*l.*	33*l.*	33*l.*	39*l.*	41*l.*	37*l.*
Price per ton	40*s.*	41*s.*	38*s.*	39*s.*	49*s.*	46*s.*	40*s.*
Severn Ports—							
Freight per	26*l.*	28*l.*	29*l.*	28*l.*	35*l.*	34*l.*	30*l.*
Price per ton	30*s.*	33*s.*	35*s.*	38*s.*	44*s.*	42*s.*	39*s.*
Liverpool—							
Freight per	24*l.*	24*l.*	25*l.*	24*l.*	29*l.*	30*l.*	26*l.*
Price per ton	31*s.*	32*s.*	33*s.*	35*s.*	41*s.*	40*s.*	32*s.*

	August.	September.	October.	November.	December.	Annual Average Rate.
Northern Ports—						
Freight per	35*l.*	33*l.*	31*l.*	29*l.*	30*l.*	33*l.* 17*s.*
Price per ton	38*s.*	37*s.*	39*s.*	37*s.*	34*s.*	39*s.* 10*d.*
Severn Ports—						
Freight per	29*l.*	27*l.*	25*l.*	25*l.*	25*l.*	28*l.* 5*s.*
Price per ton	35*s.*	35*s.*	36*s.*	37*s.*	33*s.*	36*s.* 5*d.*
Liverpool—						
Freight per	25*l.*	24*l.*	23*l.*	22*l.*	22*l.*	24*l.* 10*s.*
Price per ton	31*s.*	31*s.*	31*s.*	30*s.*	27*s.*	32*s.* 10*d.*

1865.

	January.	February.	March.	April.	May.	June.	July.
Northern Ports—							
Freight per ..	29*l.*	29*l.*	28*l.*	28*l.* 10*s.*	28*l.*	28*l.* 10*s.*	29*l.*
Price per ton	36*s.*	34*s.*	35*s.*	36*s.*	36*s.*	37*s.*	38*s.*
Severn Ports—							
Freight per ..	25*l.*	24*l.*	24*l.*	23*l.* 6*s.*	24*l.*	24*l.* 6*s.*	28*l.*
Price per ton	34*s.*	33*s.*	34*s.*	34*s.*	34*s.*	34*s.*	35*s.*
Liverpool—							
Freight per ..	22*l.*	20*l.*	20*l.*	19*l.* 6*s.*	20*l.*	20*l.* 6*s.*	22*l.*
Price per ton	28*s.*	32*s.*	33*s.*	33*s.*	33*s.*	33*s.*	32*s.*

	August.	September.	October.	November.	December.	Annual Average Rate.
Northern Ports —						
Freight per	31*l.*	31*l.*	29*l.*	28*l.* 10*s.*	28*l.*	28*l.* 19*s.*
Price per ton	42*s.*	45*s.*	48*s.*	39*s.*	35*s.*	39*s.* 3*d.*
Severn Ports—						
Freight per ..	26*l.*	25*l.*	23*l.*	23*l.*	23*l.*	24*l.* 5*s.*
Price per ton	37*s.*	35*s.*	33*s.*	30*s.*	33*s.*	33*s.* 10*d.*
Liverpool—						
Freight per ..	24*l.*	23*l.*	23*l.*	22*l.*	20*l.*	21*l.* 4*s.*
Price per ton	35*s.*	38*s.*	40*s.*	34*s.*	31*s.*	33*s.* 6*d.*

Remarks.—Coals by steamers are generally sold at 2*s.* 6*d.* to 3*s.* per ton under those by sailing-vessels, owing to the extra expense incurred by the buyer in being obliged to give quicker dispatch to the discharging of the former.

Coals by sailing-vessels, shipped as ballast for coke, undergo the same alteration.

Parcels under 200 tons, or portion of cargoes, sell about 2*s.* per ton above the market price for whole cargoes.

Qualities of Coke and Coals generally preferred in Egypt.

Coke.—Brancepeth; Marley Hill.

Coals.—Northern country: Davison's Cowpen; Ravensworth; Buddle's and Carr's Hartley. Welsh: Powell's Duffryn, Merthyr. Liverpool: Rushby Park.

Alexandria, July 27, 1866.

(Signed) G. E. STANLEY, *Consul.*

CALIFORNIA.

Consul Booker. (*Consular Reports,* 1866, *p.* 345.)

The imports of the past year have been as follows:—

	Tons.
English	11,500
Sydney	19,260
Chili	3,600
Vancouver Island	18,180
Bellingham Bay (Washington Territory)	14,500
Fuca Straits (Washington Territory)	500
Anthracite	23,430
Cumberland	3,700

Our own mines, situate at Mount Diablo, have yielded more than in any previous year, the receipts amounting to nearly 60,000 tons, which found a ready market at about 32*s.* per ton, chiefly for the use of the river steamers. Sydney coals sold in January and February at 48*s.* to 50*s.* per ton; in March, 54*s.* to 56*s.*; in April, 56*s.* to 60*s.*; from June to November, from 50*s.* to 56*s.*; and at the close of the year, at 44*s.* to 48*s.* Most of the English coal has been imported on account of the Pacific Mail Company.

COLOGNE.

Consul Crossthwaite. (*Consular Reports*, 1865, *p.* 50.)

THE extraordinary development of the mining industry of the Rhenish provinces and of Westphalia is worthy of special notice, as, undoubtedly, the production of coal and iron in these provinces will hereafter exert considerable influence as regards these articles in England.

Formerly the importation of coal and iron into Prussia and Germany was immense; the importation of coal even to the northern parts has nearly ceased, whilst that of iron is limited to insignificant quantities for special purposes, and large quantities of iron are now even exported from these parts to England and France.

In the year 1857 the following quantities were imported into Cologne, viz.:—

	Zoll. centner.
By water viâ Emmerich—	
Pig iron	959,777
Wrought iron (duty 1½ thalers)..	127,445
Fine sorts of iron (duty 2½ thalers)	14,020
By land and Rhenish Railway—	
Pig iron	667,822
Wrought iron (chiefly Belgian)..	110,495

In addition to which, large quantities of English iron were imported viâ the Aix-la-Chapelle-Maestricht Railway; but this year it was prognosticated that the Rhenish provinces were making such rapid strides in the working of mines and in the production of iron that importation would in a few years entirely cease, and that they would be able to supply themselves without having recourse to foreign importation. This prognostication has been already more than realized. Since 1857 the importations have gradually diminished, and last year these provinces could boast not only of supplying their own wants, but they were enabled to export largely of iron both to England and to France. New works are constantly being erected, the mineral wealth is unbounded, the energy of the people has been called into active operation, and these provinces bid fair to become as renowned in course of time as the far-famed Black Country of the midland districts of England.

EPIRUS.

Consul Stewart. (*Consular Reports*, 1865, *p.* .)

THE interests of commerce demand a special notice of some resources of this country which are as yet but imperfectly known, and scarcely, if at all, appreciated. In addition to salt and pitch

mines, it possesses the two great elements of industrial wealth—coal and iron. The northern extremity of Mount Pindus is a mass of ironstone; and surface coal is found at Kukulus, in the Luli district, and at Rapsista, in the Jumerka district—places twenty-five miles, as the arrow flies, apart. Kukulus lies north of the heights of Luli; and the River Acheron sweeps round the mountain's southern base. In the bed of this river, fragments of coal are found in considerable quantities, from which fact it may be inferred that the coal-vein traverses the mountain in its whole width of four miles, and crops out on the flanks. From Luli there is a descent of six or seven miles to the Acherusian Plain, and then twenty miles across a level to the port of Glyki, on the Corfu Channel.

Rapsista is on the right bank of the Arta River, fifteen miles above the town of Arta. A carriage road could easily be made the whole way through the valley, and continued from Arta across twelve miles of plain to the sea. The coal, as at present known, is situated on a steep height, from which it could be shot down by a slide to any required level. The country lying between Rapsista and Kukulus consists of a knot of homogeneous mountains, severed about midway by the deep narrow valley of the Louro. A careful examination might perhaps discover that these intervening mountains are also carboniferous.

SPAIN.

Consul Dunlop. (*Consular Reports*, 1866, *p.* 321.)

Importation of Coal.—During the last five years a total of 189,844,500 kilogrammes has been imported from England (mostly from Cardiff), thus—

	Kilos.		Kilos.
1861	31,007,300	1864	36,572,600
1862	54,965,300	1865	26,211,300
1863	41,088,000		
		Total ..	189,844,500

or about 190,000 tons English.

The average price demanded here for English coal is 30*s.* to 32*s.* per ton. The diminution which is to be observed during the last two years is occasioned by the Department of War and Marine having very much lessened the amounts of their contracts. The duty, or rather 'consumos,' paid on coal imported into Cadiz is about 4*s.* to 5*s.* per ton English.*

While on the subject of coal, I may observe that it has surprised me, since coming to Andalusia, that although considerable amounts of English capital has been (sometimes profitably) invested in other mining throughout Spain, very little attention has been given to her coal fields. Coal formations are formed in

* This is more a town octroi or "consumos" than regular duty.

Andalusia, at Belmez, and Espiel, at San Francisco del Monte, and Adamaz in the province of Cordova; and between Guadalcanal and San Nicola del Puerto, near the River Biar, and also at Villanueva del Rio, in the province of Seville.

The Belmez and Espiel district is the principal coal-field in Andalusia, and second only in Spain to the extensive coal measures of Asturias. It extends from the villages of Penavoya to Villahasta, a distance of about 40 miles, and has an average breadth of about six. The coal is generally of good quality, and the seams, though very irregular, are of unusual thickness. The strata are frequently dislocated and contorted, owing to posterior upheavals, and in some places protrude in an almost vertical position, allowing where this takes place of their being worked with but little trouble or cost. Some years ago all the coal that was here produced was obtained from the surface, and the quality was very serviceable. The mine most in repute is the "Terrible," owned by a French company; it is extensively and judiciously worked, and several miles of galleries have already been cut. It is ready to supply a large demand, when the railways which are being constructed, and which are hereafter to be constructed, will connect this isolated place with the principal trunk lines in Spain. There are other mines at Belmez and Espiel, owned by the "Fusion-Carbonifera" and other Spanish companies, and by private persons, but all of them are either for the moment abandoned or are very indifferently managed; and for their ultimate possession numerous and complicated lawsuits are pending. But thus the less coal is taken away from them in the meantime; and the only outlets for the little they put out are an iron foundry, several copper and lead smelting works, and a few neighbouring mills worked by steam-power established in the vicinity. The coal cannot be conveyed conveniently to any great distance, as the country is rough and hilly, and no regular roads, which could carry winter traffic, have as yet been made. The price at these mines for coal fit for furnaces and engines is from 13*s.* to 17*s.* per ton, but the cost of carriage to the Pechoro iron-works for instance (distant from Penavoya about 60 miles) is upwards of 40*s.* per ton, its cost thus amounting at these works to 53*s.* to 57*s.* per ton. This high price naturally prevents any great consumption, and it is employed, owing to its good quality, only for special purposes.

The strips of carboniferous formations at San Francisco del Monte, and at Adamaz, quite near Cordova, have never been properly examined or explored, as far as I know. The coal formation of Guadalcanal begins near Bafia in Estremadura, and extends to the village of San Nicholas del Puerto, a distance of about 60 miles; its greatest breadth being about 15 miles. This large coal district is scarcely known even in Spain, and has never been thoroughly examined by competent geological surveyors. A pit here and there has been sunk near where the coal seams protrude; and bituminous shale and coal of inferior quality have been met with at a few feet from the surface. At Fuente del Arco a small quantity of coal is extracted for the supply of a

steam-engine established at a short distance. These unimportant and impotent attempts at real mining do harm to the coal-fields, and bring discredit on those of them that are worth careful working.

There are indications of coal near the River Biar, a tributary of the Guadalquivir, but neither has this district ever been well explored, nor has any scientific boring been attempted. According to several French engineers who have visited the spot, the formation where traces of coal deposits have been met with belong to the triassic epoch. The coal-field of Villanueva, which is of limited extent, covering a surface of scarcely a square mile, lies in silurian rocks, and is overlaid by the tertiary formation, under which it dips in a southerly direction, and extends perhaps beneath the Guadalquivir (see map of Spain). This field has been worked for a long time by the "Compania del Guadalquivir," and by other companies, but without much judgment. Numerous pits have been sunk of about 9 feet in diameter, to a depth of from 15 to 25 fathoms. The coal at the bottom has been raised by manual labour alone, the pitmen working the seam only as far as they thought it safe, without propping the galleries; and then abandoning the shaft to dig another one whenever they considered there was an immediate risk of the ground above giving way.

The consequences of this absurd manner of working these mines is, that a great portion of the first seam of coal is much deteriorated, and is of more difficult extension than if nothing had been done. The place is curious to look at, being completely riddled with these shafts and pits, and it is positively dangerous to go across the ground, even during daylight.

At present a large part of this property is held by or for M. Pereire, of the French Crédit Mobilier. Proper machinery is being established, and the works are beginning to be carried on upon scientific principles.

These mines are about 20 miles from Seville, and the Merida Railway will connect them with the Cordova line at Treina. The seams are of no great thickness: but five (seams) are known to exist, only one of which has been worked in the imperfect manner described; the second has scarcely been touched at all. The annual yields of the Villanueva mines have been from 5,000 to 15,000 tons English, but M. Pereire's mines ("Minas de la Reunion") will soon be in a position to supply much larger quantities.

The other coal deposits of Spain are, Pola de Lena and Micrès in Asturias; Val de Sabero, in Leon; Guardo and Muneca, in Palencia; San Juan de las Abaderos, in Catalonia, and Hinaressos, in Cuenca. The rest, as far as known, are of minor importance.

Reports on Coal from the Governors of British Columbia, Falkland Islands, Mauritius, Newfoundland, New South Wales, and New Zealand.

(Communicated to the Foreign Office by the Secretary of State for the Colonies.)

BRITISH COLUMBIA.

Acting Governor Birch to Mr. Cardwell.

Sir, *New Westminster, July* 26, 1866.

In compliance with the instructions conveyed in your circular despatch of the 14th March, 1866, I have the honour to forward the most authentic information I have been able to obtain regarding the coal fields of British Columbia.

I have, &c.

(Signed) ARTHUR N. BIRCH.

Inclosure.

Report on the Coal Fields of British Columbia.

1. The only coal field which is being actually worked in this colony is in Queen Charlotte's Island, and this is as yet quite undeveloped.

Two companies have been formed for the working of this coal field, one called the Queen Charlotte Coal Mining Company Limited, and the other the Seymour Coal Company.

The former, which I believe was the first to commence operations some time last summer, is opening out a seam of free-burning anthracite. Some of this coal has been tested by the engineers of several steamers and the proprietors of various iron foundries in Victoria, who have pronounced it to be equal to the best Pennsylvanian anthracite.

Judging from specimens examined by myself, I greatly question the accuracy of this comparison, although I think the quality of the coal, if the specimens sent to me be a fair sample, is sufficiently good to require no exaggeration.

The following is the result of some experiments made upon a specimen of this coal.

Moisture..	5·10
Volatile combustible matter	17·26
Fixed carbon	71·20
Ash	6·43
	99·99

Specific gravity 1·46. Moderately hard. Lustre submetallic. Fracture conchoidal. Tridescent in places. Does not soften or cake when heated. Contains no sulphur.

It would appear that there are several extensive seams of this coal from 3 to 7 feet in thickness situated on the south of Graham Island, Queen Charlotte group, about 2,000 yards from the shore of a fine bay, and about 400 feet above the sea level, and it is stated that the construction of an easy and inexpensive tramway about 1 mile in length, together with a wharf of about 150 feet projection, are all the works the company will require to enable them to offer coal in the markets, as vessels of any tonnage will be able to load at the company's wharf at all seasons and in all weather.

There is a large demand for anthracite in San Francisco, Portland, Victoria, &c., to supply foundries and steamers, the whole of which has now to be shipped from the Eastern States or from Europe at an enormous expense the selling price varying from 16 to 25 dollars per ton and even more.

The continuation of one of the seams has been traced in two adjoining ranges of hills, and the distance from the extreme points at which out crops have been found on the island cannot be far short of forty miles. Application has been lately made for a grant about thirty miles south-east from the Seymour claim for the purpose of exploring a coal seam which would appear to indicate the existence of coal right across this section of the island. According to the report published by the company, the flooring consists of a hard brittle slate and the roof is a species of sandstone.

It is to be regretted that the details relating to the geological formation are so extremely meagre; more satisfactory information will, however, soon be obtained as it is the intention of the Government to send up surveyors for the purpose of examining this coal region.

The second, or Seymour Company, has taken up a claim of 5,000 acres in a direction south-east from the claim of the other company on the south shore of Skedegate Bay.

The seam has been traced for nearly a mile, the accompanying rock being sandstone, conglomerate, and black slate. This seam is in places 10 feet thick.

The coal obtained here is very different to that procured from the other seams and belongs to the bituminous variety.

I examined a sample of this coal and found it to be very friable. On being exposed in a closed crucible to a high temperature it softens and cakes into a solid mass, yielding about 80 per

cent of very fine coke. It contains no sulphur and consequently would be well adapted for steaming purposes, as the presence of sulphur in coal acts injuriously upon furnaces or upon any iron work.

Were it not for its being so frangible, it would be a very good quality of coal, but if this peculiarity continue throughout the seam it will cause great waste and inconvenience in mining.

It is, however, the opinion of Mr. Stephens, the Civil Engineer appointed by the company to survey their claim, to whom I am indebted for a copy of his report, that in driving a tunnel about 200 feet, the coal will be found hard. He expresses great confidence in the mine, and does not consider that favourable specimens of the coal have been obtained, as they were derived from near the out-crops.

To what geological formation these coal seams belong, it is impossible to determine satisfactorily from the imperfect information at present obtained. The fact that no traces of carboniferous flora have been found in the adjacent rocks, would appear to do away with the idea that the coal can be of the true carboniferous era, while the quality of the coal on the other hand would induce one to suppose that it cannot be of very recent formation.

The only fossil which has been found in the vicinity is a species of astarte which is embedded in a matrix of clay. This fossil occurs in the Suffolk crag in England. but, I believe, that on the North American Continent it has been found in the Lias.

Coal of more recent formation than the carboniferous is often turned to advantage. In Virginia coal is worked which is supposed to be of the Lias era, while in Sutherland Yorkshire, the coal is oolilic in age. In many parts of the world there are workable mines of tertiary coal.

Taking these data into consideration, and until further and more positive research has been made on the spot as to the geological formation, the only conclusion we can arrive at, and that is by no means a satisfactory one, is, that the coal seams belong to the lias formation.

If the coal bearing strata have not been too much disturbed by the intrusion of trap and other igneous rocks which are said to penetrate the adjacent sandstone, there can be no doubt that this coal bed will be of incalculable advantage to the colony as the demand for coal is almost unlimited; and the quality of this coal makes it peculiarly adapted for steaming and foundry purposes, rendering it of great value to the naval squadrons stationed on the Pacific, and to the mail steamers plying on this coast.

Lignite is known to exist in various parts of the country near Quesnel, Burrard Inlet, Lilloet, &c., but it has not been found in sufficient quantity to be of any practical use. At the former place application was made to the Government by some men for a reserve for oil wells, but the newly discovered gold mines at Big Bend prove more attractive, and the research for oil wells were consequently abandoned.

2. Up to the present time there has been no export and but

little import trade in coal, although the latter has comparatively increased the last few months owing to the San Francisco mail steamers coaling here, as will be seen by the following statement.

For the year ending 25th December, 1865	..	128 tons	.. 1,175 dollars.
For the half-year ending 25th June, 1866	..	348 „	.. 2,227 „

The amount of coal required, exclusive of that used by the mail steamers, is at present very small owing to the absence of local manufactures, and to the abundance of excellent timber, pine, maple, elder, &c., which answers all the requirements of the colony for domestic purposes.

So soon as the coal fields of British Columbia are developed, it is reasonable to anticipate a large export trade, especially if the quality of the coal is, as would appear from what has already been extracted, superior to that found elsewhere on the Pacific coast.

3. The whole of the coal imported into this colony comes from Nanaimo, Vancouvers's Island.

New Westminster, July 13, 1866.

(Signed) F. G. CLAUDET,
Superintendent of Assay Office.

FALKLAND ISLANDS.

Governor Robinson to Lord Carnarvon.

Government House, Falkland Islands,
My Lord, *October* 30, 1866.

For the purpose of collecting such information as might enable me to reply to Mr. Cardwell's circular despatch of the 14th March, inquiring whether any coal mines or indications of coal mines are known to exist in this colony, I recently directed the Surveyor-General to examine and report to me on certain coal beds said to have been discovered some years ago on the north-west and southern shores of this island.

2. Mr. Bailey returned to Stanley on the 23rd instant, and I have now the honour to submit to your Lordship a report which I have this day received from him upon this interesting subject, together with specimens of coal (as per annexed schedule) taken, some from the surface, others from a depth of 14 feet below the surface, at Port Sussex and Island Harbour.

3. In July, 1865, Professor Agassiz reported on a specimen of surface coal picked up at Island Harbour by one of the officers of Her Majesty's ship "Stromboli." He said "I can only compare it to the anthracite of Mansfield in Massachusetts and the adjoining deposits in Rhode Island; though it does not appear quite so pure as the best anthracite of the United States, but this is an impression derived from surface specimens gathered at random."

I trust this favourable report may be confirmed on an analysis

of the specimens now forwarded. Owing to the geographical position of these islands, it is of the highest importance that steam coal should be here procurable at a reasonable rate, and a rich mine of serviceable commercial coal would prove a source of the greatest advantage as well to vessels trading round the Horn as to the colony itself.

(Signed) WILLIAM ROBINSON.

Inclosure.

The Surveyor-General to Governor Robinson.

Port Stanley, Falkland Islands,
Survey Office, October 30, 1866.

Sir,

In obedience to instructions contained in your Excellency's letter of the 8th instant, on the subject of coal, I have the honour to inform you that I have visited Port Sussex and Island Harbour and examined the places where coal is supposed to exist.

At Port Sussex I exposed the face of the hill and worked down to 14 feet below high water, where I came to boulders, and the water gaining prevented my going lower, for 6 feet there is a strata of hard coal and when first exposed is very bright but looses its lustre after having been quarried. I burnt this on board the "Foam," and it gave a great heat and the residue had a white stony appearance; the lower part of the seam, as far as I was able to go has a leafy appearance, breaks easily, and looks like coal of an imperfect formation. Specimens of each are in bags marked Nos. 2 and 3. The general appearance of the cliff is clay and shale at a vertical height of 60 to 80 feet. The above can be worked from the beach at a little cost, and vessels of large burden can approach within one mile and a-half, boats can lie within 200 yards of the spot I examined.

There is the same appearance of coal two and a-half miles from the head of Port Sussex, on both sides of the stream under Bodie Peak. From this locality specimens were obtained by Governor Moore some seven years ago. I never heard the result of the experiments made at that time, neither do I know if any satisfactory test having been applied to ascertain the value of the specimens found, which were taken from a depth of 5 or 6 feet only, beyond burning it in the furnaces of one of Her Majesty's vessels of war. At Island Harbour I was struck with the different appearance the seam presented from that at Port Sussex, it seems to be more of a bituminous character, and dips at an angle of 35° or 40° in a south-south-east direction and runs under the harbour, the lower seam of coal is nine inches thick and is separated by a band of clay iron-stone on which rests a seam 5 feet thick intermixed with modules of iron-stone and quartz with a white powder very like magnesia, and above this clay to the surface of the cliff which is 35 feet high and has the same geological appearance as

the shore of Port Sussex. There is very little depth of water nearer than two miles, where a vessel of 100 tons might anchor with safety. Specimens marked Nos. 4 and 5 are from Island Harbour.

After visiting Port Sussex and Island Harbour, I feel satisfied that coal exists at both places, as regards the quality and quantity of coal to be found in these islands, it is impossible for me to say without a more lengthened examination of the country.

I have, &c.

(Signed) ARTHUR BAILEY,
Surveyor-General.

MAURITIUS.

Governor Barkly to Mr. Cardwell.

Sir, *Mauritius, June* 5, 1866.

In reply to your circular despatch of the 14th March, I have the honour to forward for your information the accompanying copy of a letter from the Surveyor-General, reporting that he is not aware of the existence of coal in this island, and that, in his opinion, the geological formation of Mauritius forbids the supposition that coal will ever be discovered here.

2. Though this assertion is not literally correct, specimens of iron pyrites thickly coated with true coal having been fowarded to me by Dr. Guthrie, Professor of Chemistry at the Royal College, from the Camissard Mountain, near Grand Port, where it exists in some abundance, it certainly seems highly improbable that coal, in available quantity, will ever be found in this little island.

3. Volcanic action, indeed, at some remote epoch, has been so intense as to obliterate the faintest traces of pre-existing vegetation, except in the islets scattered amid the barrier coral reef which surrounds it, where vestiges of petrified forests are stated to be distinctly visible.

4. The neighbouring Island of Réunion, whilst differing in so far that one of its principal volcanoes is in constant eruption, and that the coral insect has never been at work on its shores, is equally destitute of coal, so far as the researches of the various French naturalists who have written on its productions have yet extended. Most of the dependencies of Mauritius are, like itself, of mixed volcanic and coralline formation, affording little prospect of true coal; but in the Seychelles group granite is so prominently developed as to suggest the idea of their being a prolongation of the mountain ranges of Madagascar, where extensive coal-fields undoubtedly exist.

5. Perceiving it to be the desire of Her Majesty's Government to procure the most complete and authentic information on the subject, I have endeavoured, but in vain, to get a more precise and definite account of the carboniferous strata of the Great African Isle than has yet appeared; I inclose, however, a letter from the Queen of Madagascar's Representative here, narrating the

attempts of the French to work mines both at Passendava Bay and the Bay of Diego Suarez, and I believe I am justified in stating, on the authority of those who have heard it direct from the Malagash authorities, that the "fire stone," as they call it, crops out all along the north-west coast a distance of several hundred miles.

6. When jealousy of foreign interference wears off, and European capital and skill are allowed free course, there is every prospect, therefore, that this Colony, as well as Réunion, will be able to supply themselves with fuel from Madagascar, without having recourse to more distant quarters.

7. Meanwhile the supplies for Mauritius, though comparatively insignificant, will require rapid augmentation in future years, not merely from the recent establishment of gas works, the introduction of railways, and the increasing number of steam-vessels coaling at Port Louis, but because the forests of the interior are becoming exhausted, so that the planters who now burn wood under the 400 or 500 steam-engines of their sugar factories will be compelled, sooner or later, to employ coal, despite its higher cost.

8. From the Return which I inclose, it will be seen that out of 34,000 tons of coal imported last year, upwards of 30,000 were from Great Britain, and the remainder almost entirely from Australia. The quantity from the latter will increase if, as I have been told, the Messageries Impériales Company have determined to draw their supplies direct from New South Wales; and, at any rate, trade between those islands and the Australian Colonies is extending so largely as to render this probable.

9. If the mercantile marine of those Colonies were large enough, and could be sailed as cheaply as that of the mother country, there seems no reason, indeed, why the whole Eastern hemisphere should not be supplied by them with coal, which might be worked within each of their territories; but as at present the Peninsular and Oriental Company find it cheaper to bring English coals to King George's Sound than to ship them coastwise from Sydney, it will probably require a long time to remove this anomaly.

10. Not being aware that it is in my power to throw further light on the important subject of the circular, I have, &c.

(Signed) HENRY BARKLY.

Inclosure 1.

The Surveyor-General to the Colonial Secretary.

Sir, *Surveyor-General's Office, May* 4, 1866.

With reference to your letter of the 27th ultimo, I have the honour to state, for the information of his Excellency the Governor, that I am not aware of the existence of coal in this island; and that, in my opinion, the geological formation of the

island forbids the supposition that coal will ever be discovered in Mauritius.

I have, &c.
(Signed) W. L. MORRISON.

Inclosure 2.

Mr. Lemière to the Assistant Colonial Secretary.

Sir, *Mauritius, April* 30, 1866.

I HAVE the honour to acknowledge receipt of your letter dated the 27th instant, requesting me, by order of his Excellency the Governor, to state if any coal mines be known to exist in Madagascar; and, if so, whether they have been worked.

In reply, I beg to say that it has been brought to my knowledge that there are coal mines at Passendava Bay, as also at the Bay of Diego Suarez, the latter being richer and more easily worked than the former.

Since the attempt of Mr. Darvoy to obtain coals from the mines in Passendava Bay, which was resisted by the Malagash Government, and the researches made by the French Commission with the same object, in the Bay of Diego Suarez, I believe that the resources of Madagascar have remained undeveloped as regards coal-mining.

I have, &c.
(Signed) H. LEMIERE,
Consul for Madagascar.

Inclosure 3.

RETURN of the Quantities of Coal Imported in each of the three last Years, and from what Countries.

Countries.	1863.	1864.	1865.
	Tons.	Tons.	Tons.
United Kingdom	23,534	12,692	30,709¾
Australasia	2,473	1,894	3,590
Cape of Good Hope	578½	36	21
Continental India	254	..	3
Singapore	..	..	5
France	316	..	..
Hanseatic Towns	..	..	22½
Réunion Island	..	..	12
Timor	..	55	..
United States of America..	11	..	..
Peru	10	..	..
Total	27,176½	14,677	34,363¼

(Signed) H. COOPER, *Collector.*

Custom-House, Port Louis, Mauritius,
May 1, 1866.

NEWFOUNDLAND.

Governor Musgrave to Mr. Cardwell.

Government House, Newfoundland,
April 19, 1866.

Sir,

I HAVE had the honour to receive your circular despatch of the 14th of March, requesting that you should be informed whether any coal-mines, or indications of coal-mines, are known to exist in the Colony under my Government, and if so that you should be furnished with a Report of a similar character with the Reports of which you inclosed copies, which have been laid before Parliament from Her Majesty's Missions abroad on the coal production of foreign countries.

2. In reply I have the honour to acquaint you that there are no coal-mines in Newfoundland actually being worked, but there are indications of the presence of coal in places on the west coast, known as the "French shore," and further inland in the neighbourhood of a large lake known as the "Grand Pond." There seems to be good reason to anticipate that the extension of the coal formation, which is now very productive in Cape Breton, Nova Scotia, on the other side of the Gulf of St. Lawrence, will be found in the localities I have mentioned.

3. I inclose a copy of a narrative of a geological exploration made during the last summer by Mr. Murray, a geological Surveyor, in which will be found his remarks on this subject. Mr. Murray will continue his investigations during the ensuing summer, and the result of his researches shall of course be communicated to you.

I have, &c.
(Signed) A. MUSGRAVE.

Inclosure.

Extract of a Narrative of Exploration, by Alexander Murray, Esq., Geological Surveyor of the Island from its Eastern to its Western Shores, by following the Valley of Indian Brook from Hall's Bay, and thence by the Grand Pond and its tributaries to St. George's Bay.

St. John's, Newfoundland,
January 24, 1866.

PROCEEDING now to the geological division of the subject, my remarks will, for the present, chiefly apply to the distribution of the carboniferous formation, the probable position of workable seams of coal, and to the presence of mineral substances of various kinds suited for economic application. At a future time, when the materials for a report have been fairly studied out, I shall hope to be able to enter more fully into details.

As the carboniferous formation of Newfoundland is clearly an extension of the same rocks which constitute the coal-fields of Cape Breton and Nova Scotia, I, on my return from Bay St. George, viâ Sydney, C.B., took the opportunity of examining the measures there, in order the more fully to assure myself of the position of the workable seams of coal, as well as the masses of gypsum, occupied in the vertical geological section i and I was further aided by some valuable information given by Mr. Poole, the Superintendent of the Glace Bay Mines, and by Mr. Brown, of the Sydney Works.

The rocks of the coal formation in Newfoundland, as in Cape Breton, consist of conglomerates, sandstones, red, green, and black shales, with concretionary bands of limestone or dolomite. The base of the formation is usually represented by a coarse conglomerate associated with beds of very micaceous sandstone, and some very red shale. These are succeeded in the ascending order by beds of grey, greenish, often drab, weathering sandstone, always more or less micaceous, sometimes coarse in texture, becoming, in some instances, a fine conglomerate, and at other times of very fine texture and regular lamination. These beds are usually associated with a very black or bottle green argillaceous shale, with occasional hard, yellow, weathering nodular or concretionary bands of impure limestone. Fragments of carbonized plants are abundantly scattered through the sandstones, and small irregular seams and nests of coal occur frequently. Associated with the lower carboniferous measures gypsum occurs, sometimes imbedded irregularly with the stratification, but more frequently in masses protruding through it. The upper part of the group in Cape Breton, consists chiefly of strong beds of sandstone, with argillaceous and bituminous shales, amply stored in many parts with fossil remains, chiefly ferns and other plants characteristic of the coal formation; and it is in this part of the section that the workable seams of coal have hitherto been discovered.

The coal formation is probably the most recent group of rocks exhibited in Newfoundland (excepting always the superficial deposits of very modern date, which are largely made up of the ruins), and there may have been a time in the earth's history when it spread over the greater part of the land which now forms the island; but a vast denudation has swept away much of the original accumulation, and left the remainder in detached patches, filling up the hollows and valleys among the harder and more endurable rocks of older date, on which it was unconformably deposited. One of the most important of these detached troughs or basins of coal measures is in Bay St. George, where the formation occupies nearly all the lower and more level tract of country between the mountains and the shores of the Bay; and another lies in a somewhat elongated basin from between the more northern ends of the Grand and Deer Ponds, and White Bay; the eastern outcrop running through Sandy Pond, while the western side probably comes out in the valley of the Humber River, near the eastern flank of the Long Range of mountains. There is reason

also to suspect the presence of a smaller trough of the same rocks, between Port-a-Port and Bear Head, towards the Bay of Islands, the greater part of which, however, is probably in the sea; and, from local information I received from the Indians, as well as some residents in the Bay St. George, I think it not improbable that another trough of the formation may occur in the region of the Bay of Islands.

Following the outcropping edge of the northern trough, the base of the coal formation is found on the east side of the Grand Pond, opposite the northern end of the great island; from whence it skirts that shore of the lake in a narrow belt to the immediate vicinity of the Old Harry Mountain, where it runs under the water for a short distance, reappearing on the points between Old Harry Brook and Hind's Point; and, again striking into the interior at a short distance to the northward of the latter point, it bears for the base of the Conical Hill, crossing Coal Brook, and pointing towards the lower end of Sandy Pond. The immediate contact with the underlying rock is usually concealed, but the nearest exposures were invariably a greenstone, with epidote, which forms the lower range of hills; the main range immediately in rear being of gneiss. The same measures run across the northern point of the Great Island, and, striking the western shore near Bucket Cove, bear away in a northerly course for the northern end of Deer Pond. About two miles to the northward of Bucket Cove beds of coarse conglomerate, interstratified with very red shales, which form a lofty, and, from the colour of the shale, very conspicuous cliff, were found resting against a mass of edidotic greenstone; but the rock immediately to the southward, and toward Bucket Cove, is mica schist, with hard, greenish, very micaceous sandstone or quartzite, the geological age of which I am not yet in a position to state with certainty.

Considerable disturbance is manifested in the cliffs on either side of the greenstone, the strata toward Bucket Cove being tilted in some parts, so as to dip in various directions, and at others for a short space to appear nearly horizontal, while the conglomerate and red shales at the point are turned up at an angle of 60°, dipping to the south.

The cliffs on the coast northwards display a succession of undulations in the stratification, dipping alternately to the south-eastward and north-westward, by which the same measures are several times repeated; the continuous regularity of the beds being also frequently interrupted by faults or dislocations of greater or less magnitude, but towards Whetstone Point these disturbances are less obvious, and beyond that Point, approaching the northern end of the lake, the dip appears to decrease until reaching the entrance of the Main Brook, where a low section of brown coloured, coarse grained ferruginous sandstone comes out from below the superficial deposits of sand in a nearly horizontal attitude.

In the valley of Coal Brook the sandstones are exposed in cliffs from 20 to 60 feet high, where they are in some parts considerably

tilted, more particularly near their junction with the greenstone of the Conical Hill, which probably is intrusive. To the northward of the Conical Hill the rock is mostly concealed, but the level character of the country seems to indicate the probability of there being little disturbance. Fossil plants, the bark of the stems of which were always converted into coal, abound in some of these sandstone beds on both sides of the lake, and at Coal Brook; and thin irregular seams and nests of coal were observed in several places. Mr. Jukes, in his work on the geology of Newfoundland, mentions the occurrence of a seam of coal six inches thick on the Coal Brook, but this seam I did not see, its outcrop, probably in the interval since his visit, having been covered over by *débris* from above, which it is evident is constantly falling, sometimes even in heavy landslips, bearing the trees and bushes in inextricable confusion along with them. Small fragments of coal occur on the bed of the brook, however, and are sparsely scattered along the gravel along the shore of the Grand Pond, near its mouth. There is clearly a seam of coal near the outlet of the Main Brook, part of the outcrop of which appears to lie between the main land and the small island I have called Seal Island (from the number of seals that frequent its shores), as on every occasion when the lake has been agitated by strong westerly winds quantities of small angular fragments of coal are washed upon the beach; but the great accumulation of sand and boulders, both on the main shore and on the island, together with the vegetation which surmounts it, effectually conceals the strata from view, where the outcropping edge might reasonably be expected.

Judging from the fragments found, however, which in some cases appear to produce the whole thickness of the seam, it is probably of but little importance, although by the process of boring through it the facts might easily be ascertained.

Similar small seams and nests of coal occur in the lower part of the formation in Cape Breton, but there is, so far as yet known, a vertical thickness of several hundreds of feet between the position of those and the lowest workable beds; so that, reasoning on the analogy that exists between the circumstances in the one case, and those in the other, and supposing the sandstones of Grand Pond to be the equivalents of those holding the same general characteristics in Cape Breton, the inference will be that the workable measures will most probably occur at a higher geological horizon.

From what I have been able to observe, if the workable beds of Cape Breton exist at all in the central trough of Newfoundland, the country where they may be expected to be found will be in the region between the Humber River and Sandy Pond, where there is ample room to bring in a sufficient accumulation of thickness, although the character of the country in that part is sorely against surface examination, it being in a great measure covered over by dense vegetation or marsh.

On the north side of St. George's Bay, between the narrow isthmus of Port-a-Port and Romain's Brook, thin flaggy beds of sand-

stone, some of a red and others of a greenish colour come against a mass of limestone strata by a fault. Between the exposure of these rocks and Romain's Brook, a great accumulation of drift material, consisting of clay, gravel, and sand, rises in high bold banks over the shore, concealing the older rocks, but the sandstones again appear inside of Romain's Brook, associated with a great mass of gypsum. In this case the gypsum apparently protrudes through the sandstone beds, which are brushed up against its sides, and it forms a cliff of itself for some eight or nine chains, with a height in some parts of about sixty feet on the left bank of the stream. To the eastward the gypsious mass is indicated by the occurrence of several deep symmetrical depressions or hollows on the land, a phenomenon well known to accompany the presence of the same mineral in other parts of the world.

Beds of a soft greenish micaceous sandstone with some red bands, rest against the southern flank of this gypsum, dipping in a southernly direction away from it about 20°, the surfaces of many of which are sprinkled over with small fragments of carbonized plants, exactly of the same character as seen on the lower sandstones near Sydney, in Cape Breton, and on the Grand Pond.

A great proportion of this mass of gypsum is pure white, and admirably suited for cement or stucco; but portions of ore of a pinkish colour, and other parts are deeply stained with brown, probably the effect of decomposing iron pyrites. Large dark green crystals of selenite abound in some parts of the gypsum. The coarser gypsum is largely used in Canada and the United States for agricultural purposes; there being raised chiefly for that purpose in the valley of the Grand River, Canada West alone, nearly 14,000 tons annually (see Geology of Canada, page 763, in which also the prices of the article in various conditions will be found).

Although the dip of the sandstone at its junction with the gypsum is moderately high, it seems probable, from the character of the country to the eastward, that it slopes gently, with waving undulations away from the mountains towards the sea, interrupted only by a set of crystalline rocks, supposed to be of Lower Silurian age, which rise at Indian Head, and compose the hills which look over the north-east angle of the Bay. In this case, supposing the dip to be regular at the rate of 7° to the horizon, a distance of seven miles across the strike would bring in a thickness of strata amounting to about 4,300 feet, and consequently, in all probability, that part of the formation in which the workable seams of coal may be expected; and in like manner a regular dip of 20° would accumulate the same amount of measures in less than two miles; but on the other hand, if the rocks are affected by undulations repeating the same strata once or more, the thickness will obviously be proportionately so much less according to the circumstances.

About seven miles distant from the gypsum on Romain's Brook a seam of coal occurs on the bank of the Indian Brook, which, however, does not appear to be of any great thickness. It

rests on a dark-coloured argillaceous shale, which contains a fossil very much resembling stigmaria ficoides; which fossil invariably underlies every true seam of coal known, either on this or the other side of the Atlantic, being, in fact, neither more or less than the roots and rootlets of the trees which grow on the spot, and produced the accumulation of vegetation, that time and circumstances have converted into coal.

The south side of the Bay St. George I had no time or opportunity of examining personally; but, according to Mr. Jukes, the coal on that side are, to some extent, affected by such undulations as I have attempted to describe, which keep the lower measures near the surface for several miles from the coast; nevertheless, there is still ample room for a greater accumulation, and the higher parts of the formation may reasonably be looked for before reaching the mountains. Mr. Jukes, indeed, saw a bed of coal three feet thick on the Second Brook, and I was informed by several residents that a similar seam had been observed about three miles to the southward of Flat Bay. Masses of gypsum also occur with the lower measures on the south side, and the sandstones associated with them are characterized by the same obscure fossil remains as they are elsewhere.

A small patch of the coal formation was observed on the high plateau below the Lobster House range, consisting of a few beds of coarse brown sandstone, cropped out in perfectly horizontal strata, at intervals, on the banks of the small lakes; but further than the fact of its existence, it is of insignificant importance, and is probably not over a few feet in thickness altogether. The conglomerates and sandstones also, which form a trough between the falls of the Indian Brook and Hall's Bay, as well as those in the valley of the Indian Ponds, may be carboniferous; but the entire absence of fossils of any kind in those quarters occasions much uncertainty, and, at all events, there does not appear to be sufficient room in either case between the older rocks which support those beds to bring in the higher measures.

The same remarks apply to the conglomerates and sandstones at the head of White Bay, which, in my communication to the Honourable Attorney-General Hoyles last year, I classed under the Devonian series.

From the experience gained by the investigations of this year, I think it not improbable that I may further have to modify my views of the last, in some degree, as regards the rocks of the two peninsulas on the north-east coast, Cape Rouge and Fox Cape. The fossils I obtained from the formation there were referred to Dr. Dawson, of Mc Gill College, Montreal, for examination, who gave it as his opinion that they belonged either to the upper part of the Devonian system, or the base of the coal formation; and I was induced to take the former view from the similarity, in other respects, the rocks bore to those of Gaspe, of admitted Devonian age. Now, however, having seen fossils

apparently identical with those of the Cape Rouge section, at the base of the coal measures of Sydney, I cannot help suspecting that the section of those peninsulas, or a part of it, is coal measures also; and if such is the case, as there is a considerable accumulation of strata there, it is quite possible that the part containing seams of coal may be brought in.

I have been induced to enter thus particularly into the circumstances connected with the coal formation, in the hope that, in some degree, my remarks may act as a guide to future explorers, as well as to prevent, as far as possible, a useless outlay of labour and money in the vain attempt of searching for coal in rocks of an earlier period than the carboniferous, where there is scarcely the remotest probability of its existence. In former times thousands, if not millions, of money have been uselessly expended in Great Britain, in the United States, and to some extent in Canada, in exploring, boring, and sinking for coal in older rocks than the true coal formation, which a little knowledge of geological structure might have saved for more substantial purposes, a circumstance which ought of itself to prove that proper geological information has its negative as well as positive advantages.

The carboniferous system, as a general rule, may be expected to supply economics of no inconsiderable importance, in addition to the coal itself, and the gypsum at its base; such, for example, as iron ore, usually in bands of kidney iron-stone, building stone, grindstones and whetstones, all the three latter of which are well represented in the rocks of the formation on the Grand Pond.

It has already been stated, that the lower sandstones of the coal formation come against a limestone at a point between Romain's Brook and the isthmus of Port-a-Port, in the Bay St. George. This limestone strikes along the shore in the direction of Cape St. George, and may probably reach that point, although, being unable to follow the coast, I cannot state that it does so with certainty. Inside of the Bay of Port-a-Port, beds of limestone run along the shore, dipping at a moderate angle to the north, but at the head of the coves or indentations of the coast, these rocks are brought abruptly against another set of calcareous strata by a fault, the fossils of the latter of which appear to me to indicate a much more recent formation than those of the former.*

The calcareous rocks on the southern side side of the fault are very much crushed and broken, but are crowded with beautiful

* Since this was written I have received a communication from Mr. Billings, through Sir W. E. Logan, whose opinion with regard to these fossils quite confirms the views expressed in the above. Mr. Billing's words are,—"This limestone is certainly of lower carboniferous age, for although the three latter of the fossils are not determined specifically, there is no mistaking the types to which they belong.† The '*terrebratula succulus*' is, on comparing specimens, undoubtedly identical with the species from Nova Scotia that Davidson has examined and figured under that name."

† This refers to the list of fossils.

fossil remains; while the limestones on the northern side, which are also fossiliferous, are of a totally different mineral quality, and the fossils of entirely a different type.

Running in the line of the dislocation, which, at one part, bears N. 65° E., S. 65° W., but which generally, perhaps, has a more nearly east and west course, galena, or the sulphuret of lead, is scattered in cubes, or reticulates in strings, associated with large rhomboidal crystals of calc spar. The fault shows itself at intervals with its associated minerals at the heads of several of the deeper coves on this part of the coast, and as I was informed by a very intelligent resident, is again to be recognized in the country to the westward, in a valley or gorge, locally called Piccadilly. The conditions in which this galena occurs, are such as to warrant diligent investigation and trial on the part of mineral explorers; as there is great probability that in some parts of its course the lode may be found to produce a remunerative supply of ore.

The fossils of the limestones which skirt the shores of Port-a-Port Bay, immediately to the north of the fault and lead vein, appeared to me to be of lower silurian age.* They are very bituminous, emitting a strong fetid odour by a blow of the hammer. Following the strike of this formation to the eastward, it forms the Table Mountains, and further still into the interior, the hills on the north-west side of the St. George's Main Brook and the Upper Valley of Spruce Brook, apparently making for the head of the southern arm of the Bay of Islands, where Mr. Jukes reports the presence of limestone, with beds of white marble.

There are rumours of coal having been seen by the Indians many years ago in the valley of the Spruce Brook, which, however, I found, on making particular inquiry, did not occur in solid rock, but in broken fragments; and this may possibly be the case, but if so was most likely a portion of the many erratic boulders conveyed by ice or other agency, at a remote period, from a distance.

Whilst in the neighbourhood of Port-a-Port, I was informed that a bituminous substance resembling petroleum, had been observed on the Middle Long Point, on the west side of the Bay, and also that native copper occurred on some part of the main coast further north, but I was effectually prevented from visiting those localities, notwithstanding my great anxiety to do so, by a succession of furious storms, which rendered all travelling, either by land or water, utterly impossible.

In conclusion, I have only further to remark, that the difficulties to be encountered in attempting to work out the geology of this island are of no ordinary kind, and will require time and much hard labour to do so, even in the most superficial manner. What with the too general inaccessibility of the seaboard, where

* Of these limestones Mr. Billings says:—"This rock is the upper part of the 'true calciferous,' (*i.e.*, Lower Silurian), and lies next below the Levis formation. They belong to the divisions H. I. K. L. M., Geology of Canada," page 879.

the best sections of the rocks are to be found, the difficulty of travelling in the interior, the absence of topographical maps or surveys of any kind (except of the coast), on which to place the smallest reliance—and in addition to all, the highly disturbed and altered state of the older formations, together with a very general absence of organic remains, to act as guides—the explorer, it may be admitted, has a sufficiently arduous undertaking before him.

In Great Britain, where every part of the nation is so easily accessible, with maps so accurate as to be almost absolutely perfect, with an able and ample staff directed by Sir Henry de la Beche or Sir Roderick Murchison, years have sometimes elapsed in the examination of a single county, while in Canada a well-organized staff, under the direction of Sir W. E. Logan, were incessantly occupied for upwards of twenty years before the structure of the country was properly understood.

I have, &c.

(Signed) ALEXR. MURRAY.

To his Excellency
The Governor of Newfoundland.

NEW SOUTH WALES.

Sir J. Young to Mr. Cardwell.

Sir, *Government House, Sydney, June* 22, 1866.

IN reply to your circular despatch of the 14th March last, requesting me to inform you whether coal mines or indications of coal mines are known to exist in the Colony under my government, I have the honour to forward a Report on the subject of date 1861, furnished by Mr. W. Keene, Government Examiner of Coal Fields. Also some returns which have been ordered from time to time by the Legislative Assembly.

2. The quantity of coal in New South Wales is very great.

3. The export from the single port of Newcastle, which Mr. Keene stated at 1,000 tons, now exceeds 12,000 tons a-week, and is expected to reach 29,000 tons a-week next year, when the additional facilities for the shipping, which are in progress, shall have been completed.

4. The shale from which kerasene oil can be extracted exists in various localities and in vast quantities.

5. Attention has only been recently turned to the extraction, but already several Companies have been formed to prosecute the enterprize and thousands of gallons of oil have been produced, which is said to burn longer and with a steadier light than the oil imported from America. It is expected that the domestic produce will speedily supersede the foreign article for home consumption, and also afford a large surplus for exportation.

6. Copies of the maps and sections alluded to in Mr. Keene's

Report were presented to the Geological Society in London. I forwarded sections of the Wollongong Coal Fields in 1863 to the Duke of Newcastle and to Sir Roderick Murchison.

I have, &c.

(Signed) JOHN YOUNG.

Inclosure 1.

Report on the Coal Fields of New South Wales, by W. Keene, Government Examiner of Coal Fields.

THE time has come to place on record the rapid development of our coal-fields. Ten years ago we had only one company of any importance at work, and only one horse tramway for the conveyance of coals to the shipping. Now we have tramways and locomotives from a dozen collieries, and the extraction has increased from 67,000 tons per annum to more than 1,000 tons per day, or over 360,000 tons per annum; and we are confident that the more our coals are known the greater will be the demand.

When last year we were about to send our contributions to the International Exhibition, the Lords of the Admiralty offered to institute trial experiments at Woolwich to settle the question as to the value of our coals, provided that not less than two tons were sent from each colliery. Our Commissioners intrusted to the Examiner of Coal-fields the task of collecting fair samples from each colliery, and to show how this task was executed, we cannot do better than publish Mr. Keene's letter addressed to the Commissioners, as it has been published in the London Catalogue of the International Exhibition, and in which will be found very interesting details of our various collieries.

This letter of the Examiner was accompanied by a geological collection, and a copy of Sir Thomas Mitchell's well-known map coloured geologically so far as the country had been examined by Mr. Keene up to that time, as well as a section of about 200 miles from Muswellbrook in the north to Gunning, and the head of the Lachlan, near Yass on the south road. We have the authority of Sir Daniel Cooper and our London Commissioners for stating that this collection, map, and sections received unqualified praise from Sir Roderick Murchison, Sir Edward Logan, Mr. Sopwith, Mr. Warrington Smythe, and the many men of science who examined them, and the jurors awarded a medal "for the persevering labour shown in this work."

In due course the experiments were made by the Admiralty, and a somewhat complicated tabular statement of the results, signed by Mr. C. H. Pennell, Chief Clerk, was published in the Sydney papers in the month of September.

The Examiner of Coal Fields took, and we think very properly, this complicated table, and reduced the experiments to an

average, thus expressing the results in the most simple form, as appended below.*

Mr. Keene shows that, according to the Admiralty Report itself, "Australian coal excels average English north-country coal in power of evaporation; for one pound of our coal evaporates more water than a pound of English coal;" and the result is that the Lords of the Admiralty have given orders that our coal shall be used in Her Majesty's ships on the station here; so that we see before us a large amount of prosperous occupation and investment for capital in the working of our coal-fields.

Letter addressed by Mr. W. Keene, the Examiner of Coal-fields, to the Commissioners of New South Wales for the International Exhibition of 1862.

Having been honoured by you with copy of the communication from the Lords of the Admiralty, stating that their Lordships had granted permission for the institution of a series of experiments in Her Majesty's Dockyards with a view of testing the relative heating powers of the different varieties of the Australian mineral as compared with each other, as well as with British coal:

And further informed of the wish of their Lordships that, to secure this important object, and to render the results as little liable to error as possible, no specimen would be forwarded weighing less than two tons, I addressed a circular to the proprietors of the principal collieries in work, and they readily accepted their Lordships' offer. Two tons or more of fair, round, hand-picked coal has been supplied, properly packed, by each colliery, under my inspection, and shipped, with the other exhibits, for London.

The Australian Agricultural Company send 2 tons from their mine, known as the Bore Hole Colliery. The seam is 163 feet from the surface, and 150 feet below the sea level; its greatest thickness about 9 feet, with average dip to the south-east of 1 in

* Average results of the trials of Australian coals, compared with the average of English north-country coals:

1. The Woolwich apparatus or boiler, which, with average English north-country coal evaporated at the rate of 47 cubic feet of water per hour, with average Australian coal evaporated 46¾ cubic feet, or 188th part less in the same time of one hour.

One lb. of English north-country coal evaporated 8·25 lbs., or 8¼ lbs. of water; and 1 lb. of Australian coal evaporated 8·258 lbs., being a small fraction more than a pound of English coal.

3. The average of the English coal gives 1 per cent. of clinker; the Australian, 2·11 per cent., or rather more than double.

4. Of ash, the average of English north-country coal is 4 per cent., against 7.15 per cent. for Australian; and of ash and clinker together, the English coal is stated to give 5 per cent., whilst our own leaves 9¼ per cent.

5. We thus see that average Australian coal excels average English north-country coal in power of evaporation; for 1 lb. of our coal evaporates more water than 1 lb. of English coal; and in *time*, that is to say, the evaporation per hour, the difference against us is so insignificant as not to be worth attention.

6. The quantity of residue or ash to be thrown away is of little consequence when the evaporative power of the coals is so equal.

We may fairly assume that the English coal as supplied to Woolwich has attained its highest average, whilst the coal of Australia is an improving average.

20. This coal is greatly esteemed in the Melbourne and Californian markets. Ships of large tonnage can load at the staiths of the Company, to which the coal is taken from the pit's mouth by locomotives, a distance of about two miles.

The same Company send also 2 tons from their F pit, situated on the hill side at Newcastle, and in which, at 90 feet below the surface, the coal known as the Yard Seam, and visible on the coast at the sea level, is worked. For many years this was the only coal wrought by the Australian Agricultural Company. It is rather soft in quality, but esteemed for household purposes, gas manufacture, and blacksmiths' work. These coals are also taken to the wharf by locomotives. The Company frequently ships 500 tons a-day, and can readily supply larger demands. Price 14*s.* 6*d.* per ton.

The Newcastle Coal and Copper Company send 2 tons from their colliery, working what is known as the Burwood Seam. This coal is seen in natural section on the cliffs of the sea coast, 60 feet above the sea level, and has been worked into by day-levels in the Burwood range of hills near Newcastle. The 2 tons sent are from a new drift just opened in the hill known as Little Red Head, and the coal is the same seam as that of the Burwood range. Between the two workings there appears a down-throw fault of more than 60 feet. The sample is taken from the top and middle of the seam.

Section of the Seam.

	Ft.	in.		Ft.	in.
Top coal	2	6	Clay band	0	2
Fire-clay	0	3	Bottom coal	3	6
Middle coal	2	3			

This coal is easily worked, and carried by locomotives to the shipping wharves of Newcastle, at the rate of 500 tons per day. Price 13*s.* 6*d.* per ton.

The Wallsend Company send 2 tons from what is known as the Wallsend Seam. The coal in this pit is 127 feet from the surface, and 80 feet below the sea level; 9 feet 10 inches in thickness, including partings, which divide the seam into three bands. The partings are together about 10 inches in thickness. The 2 tons sent are an average mixture from top, middle, and bottom portions of the seam. The Wallsend workings are situated about half-way between Minmi and Newcastle, the strata rising towards the north-west ranges. The works connect with Newcastle by a branch railway to join the Great Northern line at Waratah, about four miles from this port, and the locomotives take coals to the ship's side at the wharf at the rate of 500 tons or more daily. Price 14*s.* 6*d.* per ton. This colliery has not long been opened, and the coal finds favour in the markets of Melbourne and California.

The Minmi Colliery Company send 2 tons from their C pit. The seam is 90 feet from the surface, and 20 feet above the sea level. An out-crop of the seam is visible in a creek about 400

yards from the shaft, rising in a northerly direction 1 in 18. It appears to be the second seam below the chert rock which covers the Coal and Copper Company's seam at Burwood, and is bedded on a hard sandstone grit of good building stone. The coal is much liked by the blacksmiths of the district, and the small makes a good coke, as does the small coal of the collieries of the Newcastle district generally. Messrs. J. and A. Brown, the owners of these mines, raise about 300 tons a-day, which is shipped at Hexham, a township on the banks of the Hunter River, ten miles from Newcastle; or the coal is sent down in barges laden with boxes, which are hoisted by a steam crane so as to load ships of any tonnage whilst at anchor in the stream. The seam averages 6 feet of clean coal, such as the 2 tons sent.

The Tomago Company have put down a shaft 365 feet to the coal, the deepest as yet in New South Wales. They first struck a seam 6 feet thick at a depth of 342 feet; but finding a thinner seam of better quality 23 feet lower, they preferred to work this "long-wall," and they supply from 100 to 150 tons daily of what is esteemed a good furnace coal. The pit is on a level at a distance of only 700 yards from the river bank, where vessels of 200 tons can take in their load. The Company has been lately reorganized, and is preparing for operations on a more extended scale. This coal is highly bituminous, and remarkable in common with the Bore-hole and Minmi seams for its tendency to reniform and orbicular fracture, a peculiarity which appears to belong to the middle seams of the series, the upper and lower seams being more disposed to splinty cleavage, and burning to ash with little cinder.

The Four-Mile Creek Company, Messrs. Christian, Nixon, and Co., carries on its operations in the East Maitland district, near to the head of the navigation of the Hunter River, fifteen miles from Newcastle. There are at least three seams recognisable in this district, and that worked is 8 feet 6 inches in thickness, 5 feet 6 inches of which is a splint coal of very superior quality, chiefly used by the two lines of steamers navigating daily between Morpeth and Sydney.

The admirable regularity with which these ocean steamers perform their service—their engines of 160 horse-power easily kept to the top of their speed with steam to spare, and blowing at the valve, give sufficient and constant evidence of the excellence of the coal; in fact, I have considered, and often expressed the opinion that good, clean, hand-picked New South Wales coal is at least equal, if not preferable, to the best coals of England, when these latter have been twice transshipped, that is to say, in the state in which English coal can alone be got in Sydney, and at double the price of the best produce of our mines.

The Four-Mile Creek is a hard slint coal, does not clinker, and burns to a very dry ash—is very comparable to the coals shipped from Goole, in Yorkshire; whilst our bituminous coals may be likened in quality to the "Hartley."

Descending the strata, and below all the seams of these

colleries, at West Maitland, about five miles north from Four-Mile Creek, two seams of cannel and splinty coal are worked, the property of the Honourable Bourne Russell, specimens of which may be seen in compartment No. 22 of of the geological collection in the Exhibition.

As this cannel coal is most useful, and is chiefly employed for domestic purposes, the proprietor has considered it needless to send it to be tested as steam coal.

Thirty-miles farther to the northward, at Rix's Creek, near Singleton, a seam of good coal is worked, of which a sample will be found in compartment No. 15, and this concludes the collection from the northern district.

Sixty miles south from Sydney are the ports of Bellambi and Wollongong; and though they cannot be compared for accommodation with the port of Newcastle, the energy of the coal owners, and the facility with which coals can be worked by "day-levels" from a 7-feet seam, which shows itself in section along many miles of the mountain range, assure to this field a progressive development to prove the inexhaustible resources of New South Wales in mineral fuel; and will be a guarantee to commercial interests that no combination or monopoly can long disturb the regularity of the supply.

At Bellambi vessels load from a jetty the coals brought down the mountain side along a tramway to the ship, and from 100 to 200 tons are thus sent away daily.

At Wollongong there is a like arrangement for the Mount Keira mine, and like quantities are shipped from that port. Each of these colleries send 2 tons of coal to be tested.

There is a day-level worked by a mining party between Mr. Hale's Bellambi mine and Mount Keira. A drift is also making into the seam four miles south of Dapto, and more than twenty miles south from Mr. Hale's; whilst five miles north from Mr. Hale's, a tramway is in course of construction to Bellambi for a Company about to be incorporated by Act of the New South Wales Parliament, and named the Bulli and Bellambi Coal Mining Company. Coals would have been sent from this latter, had there not been some impediment to their carriage to the ship just at this time, from the preparations for the railway works.

I have examined all these new drifts, both at the extreme north and south points at which the seam has hitherto been opened, at heights varying from 500 to 600 feet above the level of the sea, at a distance of at least twenty-five miles from each other, and can say that the coals appear equally good with those from the drifts in work—all upon the same seam, and showing a great regularity of thickness about 7 feet.

Besides this, and fifteen miles nearer to Sydney, at Coal Cliff, I found a seam at the level of low water, 6 feet in thickness, very like to the splint coal of Four-Mile Creek; and this seam will probably, from its apparent good quality, soon be worked.

On approaching Sydney from the Coal Cliff, there is a sudden fall in the strata, showing a downthrow of more than 1,000 feet,

so that there would be little chance of meeting with coal at Sydney without going out through the whole series of sandstones which cover the coal measures, and which we know from exposed sections to be about 1,000 feet in thickness.

[We learn that since writing the above Mr. Keene has reported that the coal seams will be found on the Sydney side of the range, which divides Woollongong from Sydney, and at a moderate depth, at the head of Port Hacking Creek, south of the down-throw, and nearly on the Sydney level.]

Inland, and to the west from Woollongong, these seams rise "to-day" 2,000 feet above the level of the sea at at the Fitzroy iron mines, at Black Bob's Creek, and near to the Hanging Rock on the Southern Road. At this last place I laid bare a 7-feet seam of coal only a few weeks ago; and it is from here that Goulburn, one of our largest inland towns, where wood for fuel is already a very costly item in steam-power, will get supplied. The finest magnetic iron ore, and limestone, abound in close proximity to each other in the vicinity of Goulburn, and the completion of the railway, which will pass close to the Hanging Rock, at twenty-five miles from Goulburn, will bring together these valuable raw materials—coal, iron, and limestone.

I have to acknowledge the ready compliance of the various Companies and owners with the request made by me on behalf of the Lords of the Admiralty, and testify that the coals sent are from different colleries indicated.

Since the year 1856 the trade of the old Companies has nearly doubled, whilst uew Companies have started into existence, and the extraction and sales of these latter are now equal to what the old Companies were doing five years ago.

By reference to the collection I exhibit, it it will be seen that I can recognize eleven distinct seams which are more or less worked. The same series of seams extends from Newcastle to the Wollongong district, disturbed and broken up only by comparatively modern eruptions of porphyries and basalts.

On the lands of the Australian Agricultural Company, a few miles from Stroud, a seam more than 30 feet in thickness crops out in the length of a creek, and this thickness has been verified by several trial pits sunk on the dip side. There are many partings of shale and fire clay, and the coal is of various quality in the thickness of the seam, but there is quite sufficient of good coal for profitable working, if its inland position did not render it wholly unavailable in face of coal so easily accessible from the seaboard as that of Newcastle and Wollongong.

As regards the geological age of the coal of New South Wales, it would be easy to add pages on this subject, if I did not think it irrelevant, except so far as the question of the geological age of a coal is inseparably connected with its commercial value. That is to say, though there may be, and there is much bad coal in the palæozoic or true carboniferous series, a really good coal in the oolitic, lias, or tertiary deposits, is a thing unknown. To class the mineral fuel of New South Wales as belonging to either

of these latter formations would be at once to discredit and condemn it in the market of the world, until, despite discredit and condemnation, its merit were discovered; when it would be tardily acknowledged that the condemnation had proceeded from an error in science, arising out of deficient or too superficial an investigation, or the too facile application of inapplicable theories.

A reference to the collection I exhibit will settle this long-disputed question; and for the reasons stated I may be permitted a few words more on the subject. All the seams of the New South Wales coal-field from the lowest which interculate with silurian fossils (spirifer, radiata, &c.), Devonian flora (Lepidodendron, Cyclopteris, Adiantites), and the Bellerophon and Crinoidea of the mountain limestone, to the highest and latest deposited seams, in which the flora (Equisetacaea, Asterophyllites, &c.), approach the oolitic character, are all deposited conformably and almost in parallelism, one on the other, covered also conformably by 1,000 feet of sandstone, upon which again has been quietly deposited the Wyanamatta beds, which I have called the false coal measures, for with all the appearance of being coal-bearing, they contain no coal, but a flora probably nearer approaching to that of the oolite.

The lower beds of the coal series of New South Wales are, then, geologically older than any worked in Europe, whilst the upper beds represent the most recent of the European true carboniferous formation. And as all the coal seams, from the silurian upwards, are deposited conformably, I must conclude that this portion of the globe was comparatively free from violent eruptions and disturbances from the Silurian to the Permian epoch, and that the alternate submergencies and elevations of the land must have been slow and gradual.

In stating my opinion here as to the age of the carboniferous deposits of New South Wales, I am in part repeating only what I reported after my first examination in this field in 1853. I then wrote: "The coal is a true coal, not lignite, or a deposit of the tertiary epoch, but belongs to the true coal formation; is overlaid by regular beds of secondary sandstone, lying in conformable strata upon it."

Seven years ago I wrote and reported: "The geology of our coal-field commences with the sandstone, and I believe this sandstone to correspond with the lower beds of the Permian system." It is a satisfaction for me to learn that this opinion is borne out by researches carried on under the direction of the Rev. W. B. Clarke, and I shall avail myself of the earliest opportunity of pursuing this examination in the field where the interesting specimens exhibited by Mr. Clarke have been found.

(Signed) W. KEENE,
Government Examiner of Coal Fields;
M.A.S. of Bordeaux, Cor. Mem. Geo. Ins. of Vienna.
Newcastle, New South Wales,
December 1, 1861.

NEW ZEALAND.

Mr. Stafford to Lord Carnarvon.

Colonial Secretary's Office,
Wellington, November 7, 1866.

My Lord,

In the absence of his Excellency the Governor I have the honour to inclose copies of a General Report on the coal deposits of New Zealand, by Dr. Hector, the Director of the Geological Survey of this Colony.

This Report was requested in a circular despatch from the Secretary of State for the Colonies, dated the 14th of March last.

I have, &c.
(Signed) E. H. STAFFORD.

Inclosure.

Extract from the "First General Report on the Coal Deposits of New Zealand;" by James Hector, M.D., F.R.S., Director.

In New Zealand no coal seams have yet been discovered that can be referred to Paleozoic coal measures, such as occur in the Northern Hemisphere, as all the formations which contain workable seams belong to the Secondary or Mesozoic, and to the Tertiary or Cainozoic epochs.

The quality of the coal found in New Zealand is, at the same time, extremely varied, some of it being for all practical purposes equal, if not superior, to much of the coal used in other parts of the world, while on the other hand, a great deal is of a comparatively inferior description, though it still has a great local value as fuel in the districts where it occurs.

At first it was attempted to class these various qualities of coal according to their respective geological ages, but though this may be effected when the geology of the country is better understood in detail, the evidence on which we must rely for such a classification is as yet contradictory. It has, therefore, been considered more advisable in the present state of our knowledge to adopt a provisional classification founded on the chemical composition of the coals.

The amount of water chemically combined with the coal being not only the best theoretical indication of its value, especially if the proportion of inorganic matter or ash be deducted in making the calculation, but also the most important point in considering its practical value as fuel, it is proposed to divide the coals found in New Zealand into two groups under the terms "Hydrous" and "Anhydrous" coal, or, those which still contain a large percentage of water chemically combined with them, and those which

we may assume to have been deprived of that water by a chemical change, which in some cases, may have been induced by causes operating feebly throughout lengthened periods, or, in other, has been rapidly effected on more modern deposits of carbon, under circumstances which favoured a more energetic action.

In the following Table an abstract is given of the average results of about seventy chemical analyses which have been made in the Laboratory of the Geological Survey, by which the respective characters of each group of New Zealand coals can be compared with that of Australian and English coals.

ABSTRACT showing Average Composition of the Coal of New Zealand, as compared with Australian and English Coal; from analyses made in the Laboratory of the New Zealand Geological Survey.

	Specific Gravity.		Fixed Carbon.		Hydro-Carbon.		Water.		Ash.		Per-centage of Coke.	Sulphur.
	Averages.	Extremes.	Averages.	Extremes.	Averages.	Extremes.	Averages.	Extremes.	Averages.	Extremes.		
Hydrous Brown Coal ..	1·277	1·246 1·315	41·92	37·28 51·40	37·93	34·37 49·34	14·07	11·40 20·26	5·34	1·90 8·33	47·27	2·79
Anhydrous Coal ..	1·299	1·260 1·409	56·94	50·10 66·43	33·28	22·53 40·20	2·84	·70 6·60	6·64	·40 11·20	63·51	†2·53
Australian Coal ..	1·320	1·267 1·385	57·44	54·50 60·10	32·28	29·00 36·85	2·86	2·60 3·70	7·44	4·80 12·45	64·88	·87
English Coal	1·279	1·276 1·288	61·29	56·18 64·63	34·02	..	*1·48	..	3·21	1·03 5·07	64·50	·82

* The 10 yard seam of Wolverhampton contains 11·29 of water.—"Percy's Metallurgy," vol. i, p. 102.
† Generally as sulphuretted hydrogen, and not as iron pyrites.

I.—*Hydrous Coals.*

These in quality correspond with the brown coals so extensively mined on the continent of Europe, and, fortunately for many of the districts of New Zealand, where firewood is deficient, they are very largely distributed throughout both islands.

A point worthy of remark is, that whereas in Europe the deposits of brown coal (or lignite as it is usually termed) occur generally in local beds of immense thickness, but confined to limited areas, those of New Zealand form regular seams of moderate thickness, and associated with alternating beds of clay, shale, and sandstone, somewhat as with the older coal formations.

The brown coal formation of New Zealand is, moreover, frequently involved in dislocations and disturbances of the underlying rocks, a circumstance which has no doubt given rise to a great variety in the value of the coal seams as fuel.

As a rule the hydrous coal measures lie on the eastern slopes of the axial rocks in both islands, whereas the anhydrous coal fields are found either west of lines of dislocation, or having a prevailing westerly dip.

This apparent coincidence, which may prove of great practical use in tracing these deposits, requires further investigation however before we assume that the position of the coal, relative to the line of dislocation, has any necessary bearing on its quality.

The Hydrous coal is of a brown colour, but hard and glossy, and frequently contains a quantity of fossil resin, which greatly facilitates its combustion.

Its principal defect is its bulk in proportion to its weight, and its tendency to crack and break into small fragments by desiccation on exposure to the atmosphere, although in this manner it loses only a small proportion of the total quantity of the water which enters into its composition, and which gives to it the character of hydrous coal.

The remainder of the water, usually from 12 to 20 per cent., can only be expelled by raising the temperature very considerably, and much of the heat derived from the combustion of the coal is thus absorbed.

Nevertheless, it is a most valuable fuel, and is largely used both for domestic purposes and for raising steam.

It is also highly applicable to the manufacture of bricks and pottery, and for other economic purposes.

The best known deposits of this coal in the North Island are those mined at Drury, twenty miles to the south of the city of Auckland, and at various points in the extensive and fertile valley of the Waikato River, where they will have a great local value in connection with the facilities for internal steam navigation which that river affords.

Seams of this coal, varying from six to fifteen feet in thickness occur at intervals over a large area of country, so as to lead to the conclusion that the formation is very extensive.

From the existence of seams of this coal on the Mokau River,

north of Taranaki, and on most of the tributaries of the Wanganui River, it is probable that another extensive brown coal field exists in this portion of the island, while there are also indications of a third extension of this same formation on the East Coast.

Our geological knowledge of these districts is as yet too limited to allow of any approximate estimate being made of the extent and total thickness of these Hydrous Brown Coal deposits in the North Island; but there can be no doubt that they underlie an area of at least 700 square miles in extent.

In the South Island, the best known and most important deposit of the hydrous brown coal formation is that on the south-east coast, northward from the Moloneux River, where its extends continuously over at least forty-five square miles, forming hills 500 to 1,000 feet in height, broken into sharp ridges by the out-cropping beds of grit and conglomerate. In this formation there are several seams of good coal varying from six to twenty feet in thickness, their aggregate thickness in a section three miles in length, exposed on the sea shore, amounting to 56 feet.

The total quantity of coal in this district has been estimated at 100,000,000 tons. Two large mines have been opened in this coal field.

The Clutha Mine is on the sea coast, about three miles from the mouth of the Clutha River, and three quarters of a mile from a bend of a river where vessels can lay alongside a wharf and load in safety at all times, and to which point the coal is brought by an iron tramway.

It is, however, impossible to effect a regular shipment of coal from this place to the market, owing to the risks encountered at the entrance to the river where the navigation is exceedingly difficult.

The principal consumption of this coal has therefore been for local use, and for the steam navigation of the river; but as it is proposed to construct a railway from Dunedin to the Clutha Valley, a distance of sixty miles, this valuable fuel will be brought into more general use than at present.

The only other mine of importance opened in this coal field is in the vicinity of Tokomairio. The coal is very similar to that obtained from the Clutha mine, and there is no reason to doubt that the same formation, if not the same seam, continues between the two places, which are about fourteen miles apart.

The seam is 9 feet thick, and is worked by a level drive in the side of a hill.

The present access to the mine is very bad, but a very small expenditure would construct a tramway for six miles to the township of Tokomairio, which is the centre of a populous and important district that will be passed through by the proposed railway.

The Green Island and Saddle Hill Basin, which is within six miles of Dunedin, and about five or six square miles in extent, is another important developement of this same coal formation.

Two of the principal seams, 7 and 9 feet in thickness, are

worked at four different collieries, and though the quality is slightly inferior to that of the Clutha coal, yet, owing to the proximity to Dunedin, its consumption is very considerable; and it would, there is no doubt, be more universally used were it not for the great expense of cartage.

In 1864 the quantity produced from the mines in this district was about 4,000 tons.

A third great extent of this formation on the eastern seaboard of the Province of Otago underlies the level country to the eastward of the Kahanui Mountains, and is in all probability the southern extremity of a formation that will be found to underlie the tertiary rocks that form the higher portions of the great Canterbury plains.

Coal of the description under consideration is also very extensively distributed throughout the interior of the Province of Otago, as local deposits in hollows of the surface of the older formations.

Such deposits, though generally of inferior quality to those above-mentioned, have great local value, and are essential to the working of the gold fields on which there is a great deficiency of timber.

Pits have been opened in the vicinity of the principal gold diggings, and in some cases round the margins of the larger interior basins, the strata display a regularity and thickness that leads to the belief that they are of very considerable extent and will yield a steady supply.

From the number of localities in the Province of Southland where this coal is excavated for local use, its extensive developement in the Northern District, and indeed over the greater part of that Province, is extremely probable.

Some of the coal from the district in question is of very superior quality, and occurs in seams 8 to 12 feet thick.

There are many other localities in New Zealand besides those already alluded to where valuable seams of Hydrous coal occur, but the above information is sufficient to show the singular importance of these deposits to the future developement of the colony, as, from their wide distribution and the applicability of this description of coal to most uses of mineral fuel—when compactness and economy of space is not the first consideration—the necessity for importing coal from other districts for local purposes will be obviated.

II.—*Anhydrous Coals.*

Under this group have been classed all the coal found in New Zealand, which resembles in quality the coal imported from England and Australia, which at the present time is the only fuel used in this colony for the purpose of steam navigation.

Owing to the great and still progressive development of the steam coastal service in New Zealand, which in a great measure replaces the expensive works for internal communication, necessary

in countries not favoured with so extensive a sea-board, it is very important to the future prosperity of the colony that it should be independent of other countries for its supplies of steam coal. Already, with a population of 200,000 inhabitants, the sum of 160,000*l.* is withdrawn from the colony every year for this item, and spent principally in labour in a neighbouring colony and for shipping expenses, neither of which are reproductive to New Zealand.

It is, therefore, satisfactory to find that coal exists in New Zealand adapted for the use of steam vessels on long sea voyages, and moreover that the supply is abundant, and occurs under circumstances that will ultimately admit of its being profitably worked, although there may be some difficulties, and, perhaps failures, in the first attemps.

The composition of the coal comprised in this group is very varied, but not more than is usual among coal seams from different coal fields in other countries.

The only point in which, as a class, they are deficient in any of the characters which have been laid down as requisite for a perfect steam coal* is in the solidity and toughness that enables the coal to withstand the constant attrition it must experience from the motion of the vessel. The consequence of this defect would be the formation of dross, the combustion of which is difficult without the use of close furnace bars, which greatly impair the draught.

This defect is, however, comparatively insignificant, and is more than compensated for (except in a few instances) by the purity of the coal, its tendency to cake, and the facility with which complete combustion can be effected, so that the loss by the formation of cinders will be much below the average.

Full particulars respecting the composition of the different varieties of Anhydrous coal are given in the Appendix to this Report, part of which has already been printed in the Supplement to the Jurors' Reports on the New Zealand Exhibition, 1865.

The most important development of the coal seams of this class is on the West Coast of the South Island, where the formation occurs resting on the surface of the metamorphic and crystalline rocks.

At Preservation Inlet, in the Province of Otago, and at various other points on the coast, this formation occurs, but without any valuable seams of coal, so far as we yet know, until the Grey River is reached; the coast to the south being principally formed either of the older rocks or of sub-alpine drifts and alluvium.

From the Grey to Cape Farewell this coal has been discovered at intervals, but whether or not the seams at these different localities are portions of the same formation, partially isolated by denudation, has not yet been determined.

* "Memoirs of Geological Survey of Great Britain," vol. ii, p. 558.

The following information respecting the coal fields at the Grey River has been furnished by Dr. Haast.

At this locality the coal extends over an area which he has estimated at fifteen miles in length by six in width.

The coal seams are said to rise with a dip of from ten to thirty degrees from the sea level to an altitude of several thousand feet, so that they occur under circumstances most favourable for their being worked at a small cost, as neither shafts nor pumping machinery will be necessary.

There is no apparent disturbance of the beds, nor any reason to suppose that the whole of the coal in the above area may not be worked.

The number of workable seams that have been discovered is four, the main seam being fifteen feet three inches in thickness.

Only one mine has yet been opened up in this field on the north side of the River Grey, at seven miles from its mouth. It is a simple chamber opened in the fifteen feet seam, at ten feet above flood mark.

From this point the coal is supposed to extend on the rise for about four miles, in an easterly direction, the dip in the present mine being ten degrees to the west.

Arrangements are now being made for working the coal on the south side of the river, which is in the Province of Canterbury, and for the construction of a railway to convey it to a point on the river where it can be shipped in vessels of six to seven feet draught.

At the present time the great obstacle to the development of these coal mines is the high price of labour, owing to the attractions offered by the gold fields, but when the excitement has subsided a large portion of the present population of that district, which is estimated at fifteen thousand persons, will doubtless become permanent, and notwithstanding the present temporary check, the importance of these coal fields will be much sooner established than if the auriferous deposits had not been discovered, and the Westland District had still remained as inaccessible as it was twelve months ago.

At present the output from the coal mine is about 250 to 300 tons per week, and is taken down the river in canoes and in 16 ton barges and delivered alongside the vessels at 40*s*. per ton. It has been used to a large extent on board the steam vessels that frequent the coast, and gives great satisfaction. A small quantity of this coal is also reported to have been tried in the Dunedin Gas Works, and to have yielded a large quantity of illuminating gas.

Regarding the coal fields at the Buller River, detailed information may be found in the reports of Dr. Haast and Messrs. Rochford, Burnett, and Blackett.

The only outcrops of coal known in this district occur at altitudes of more than 1,500 feet above the sea level, the strata resting upon a high narrow plateau that lies parallel with the coast, and extends though possibly not continuously, as far north as West Wanganui, a distance of eighty miles, where its outcrop again reaches the sea level as at the Grey.

In the immediate neighbourhood of the Buller River the existence of workable coal seams is considered certain over an area of at least fifteen square miles.

Reckoning none of the seams having a less thickness than five feet, there is a total of thirty-eight feet of pure coal; and the quantity available in this one locality has been estimated at 200,000,000 tons.

Although the Buller Harbour is on the whole more favourable for shipping than the Grey, yet the greater expense of working the coal, on account of the altitude and distance from the shipping place at which the seams occur, would indicate the Grey coal field to be the most immediately available. The quality of the coal is practically identical from both localities, and is characterized among all other New Zealand coals by the small percentage of water which it contains, usually from 1 to 2 per cent. It also contains less than the usual amount of impurity, about 90 per cent. of the coal being combustible, 30 to 35 per cent. of which is gaseous matter, leaving 65 per cent. of lustrous metallic coke, which possesses intense heating qualities.

As steam coal, its value has been fully established by a series of experiments made in 1865 with the trial boiler at Woolwich Dockyard.*

The results given by Mr. Trickett, chief engineer of the dockyard, are extremely favourable to the Buller and Grey coal, even as compared with the Welsh and North of England coal; and he appends the following remarks to the tabulated results of his experiments:—

"The Grey coal cakes in burning, and makes a hollow fire, forming a small quantity of light clinker that does not adhere to the bars. Light ash only falls through the fire-bars, and a considerable quantity of white ash passes up the chimney, leaving a dark grey sandy kind of dust in the tubes and fire-box. The smoke is small in quantity, and the coal is tender and likely to break small in being moved from ship to ship.

"The Buller coal is a more open burning coal, and does not cake,† forming a rather closer clinker than the other; and leaves a sooty deposit in the tubes and fire-box, more like the Hartly (North of England) coal, and give off a black smoke.

"No stoking tool was used in burning the samples of both kinds of coal, and nothing seems to be required, beyond throwing the coal on the fires; and the quantity of each clinker is not greater than that of the North of England coal. The evaporative power of this coal is about the average of that of North of England coal as supplied to the service; but it is not quite so rapid, and requires a rather longer time to boil off a given quantity of water. The trial of the 17th November was made with the bars half-inch apart, the other trials with the bars about three-eigths of an inch apart."

And again Mr. Trickett writes:—

"I beg to report that additional trials have been made of the

* "Nelson Provincial Government Gazette," July 6, 1866.

† All the samples examined in the Geological Survey Laboratory caked.

New Zealand coal, and a comparative statement is forwarded herewith. The mean result of ten trials of North Country coal and ten trials of Welsh coal at the same boiler are given for comparison, from which it will be seen that the New Zealand coal evaporates more water per pound of coal than the North of England or Welsh, but does not evaporate it so rapidly; or in other words a larger fire-grate is required in the same boiler to evaporate a given quantity of water per hour with New Zealand coal than would be required if North of England or Welsh coal were used."

In communicating this Report to the Nelson Government, Mr. Burnett has constructed four Tables, showing the results obtained, in a condensed and simple form, and also giving for comparison a summary of the results of similar experiments performed also at Woolwich Dockyard, but on a previous occasion, upon New South Wales coal.

A summary of the most important features of the various localities where it has been proposed to work the Anhydrous coals in New Zealand is given in the following tabular form.

Locality.	Quality of Coal.	Thickness of Seams.	Worked by	Transport by Barges.	Length of Railway to the Barges.	Length of Railway to Shipping.	Draught of Vessels.	Harbour.
1. Grey River	Superior .	25 feet .	Level free .	7 miles .	None .	7 miles on level	8 feet .	Bar exposed.
2. Buller River	Superior .	38 feet .	Level free .	None .	None .	12 miles, rise 1,500 feet ..	12 feet .	Bar exposed.
3. West Wanganui ..	Medium .	8 feet .	Uncertain .	2 miles .	None .	2 miles on level	12 feet .	Accessible.
4. Pakawau	Medium .	Uncertain .	Uncertain .	None .	None .	2 miles	..	Deep, with a bay.
5. Aorere	Superior .	Uncertain .	Level free .	None .	None .	3 miles, rise 900 feet ..	12 feet .	
6. Batten River	Medium .	Uncertain .	Level free .	None .	None .	50 miles	..	Nelson harbour.
7. Wangapeka	Medium .	Uncertain .	Level free .	None .	None .	63 miles	..	Nelson harbour.
8. Wangarei	Inferior .	6 feet .	Level free .	6 miles .	3¼ miles .	11 miles	..	Wangarei harbour.
9. Kawa-kawa	Superior .	13 feet .	Shaft .	6 miles .	3 miles .	9 miles, with heavy cuttings .	..	Bay of Islands.

Sufficient information as to the extent of the various coal seams in these localities has not yet been obtained to enable an estimate being shown in this Table of the amount of coal existing in any of them; but by the most moderate computations founded on the extent of the coal formations, it would not be presuming too much on analogy to expect that there is not less than 4,000,000,000 of tons of coal available in New Zealand.

The quantity of coal imported into New Zealand annually since 1853, as compared with the population, is shown in the following extract from the Statistics of the Colony, from which it will be seen that the consumption is steadily increasing, and that in the last year there has been a very marked fall in the price.

QUANTITY and VALUE of COAL IMPORTED into New Zealand; also the Yearly REVENUE and POPULATION from 1853 to 1865.

Year.	Quantity of Coal.	Total Value of Coal.	Value per ton.	Total Population (European).	Total Revenue.
	Tons.	£	£ s. d.		£
1853 ..	1,253	4,365	3 9 8	..	149,820
1854 ..	2,361	8,454	3 11 7	32,554	292,040
1855 ..	4,085	10,730	2 12 8	37,192	175,896
1856 ..	3,361	7,329	2 3 7	48,193	188,329
1857 ..	3,112	8,023	2 11 6	52,155	248,257
1858 ..	5,350	13,854	2 11 9	61,224	341,655
1859 ..	20,140	43,240	2 2 11	73,343	459,649
1860 ..	16,728	37,554	2 4 10	83,919	464,739
1861 ..	25,995	59,236	2 5 6	106,315	691,464
1862 ..	34,308	84,401	2 9 2	133,144	1,186,009
1863 ..	61,192	133,241	2 3 6	175,357	1,380,836
1864 ..	80,618	166,255	2 1 2	184,131	1,608,841
1865 ..	86,172	159,160	1 16 11	201,712	1,525,827

Bituminous Shale, Awatere, near Mongonui.

The locality given for this mineral, of which only a small sample has yet been obtained, is on the authority of the Rev. R. Taylor, who discovered it many years ago.

Grey micaceous sandstones of upper secondary age occur at the locality indicated, and contain carbonaceous layers with plant impressions, but no seam of this substance can now be detected; however, as the cliff is being constantly worn away by the action of the sea, the original site may have long since disappeared, but, as the same mineral may occur in other parts of New Zealand, its properties were carefully examined.

From the composition of this mineral it will be seen that it approaches closely to the famous Torbane Hill oil shale in character, to which it also bears a considerable external resemblance, with the exception of being rather darker and more resinous in lustre. Its properties are as follows:—very coherent, close grained, hard and tough, almost elastic, does not show the slightest indication of lamina or cleavage planes, having a smooth semi-conchoidal fracture in every direction.

What appears to be the exterior portion of the stratum is of a yellow colour, while the rest is of a dark black colour, and perfectly homogeneous in every part.

It is exceedingly difficult to pulverize this mineral, but when a moderately fine powder is obtained it has a very decided brown or chocolate colour. Its specific gravity is 1·112.

It ignites with ease and bursts into a flame which is sustained for a long time with great vigour.

The flame is at first very luminous and bright, but soon becomes long and smoky, and during combustion small oil bubbles may be seen escaping.

The presence of oil to a large extent among the volatile matters escaping at comparatively low temperatures, is best observed by heating the substance in a partially closed test tube to a temperature of 400° Fah., after previously drying it at 212.

The oil is then seen to condense upon the cooler portion of the tube in considerable quantity, and when finally removed to a cold place a large portion of the oily matters solidify to a white substance, probably paraffine.

When heated to a dull red heat, in a closed crucible, till no more gaseous matters are evolved, there remains about 23·00 per cent. of light non-coherent cellular and slightly lustrous coke, and this in the open fire was found to burn readily to a perfectly white ash.

In order to compare this bituminous shale with others of known value, samples of the oil shale from New South Wales, and of the Tobane Hill mineral, were analyzed at the same time, and the following Table gives the results obtained, together with the composition of the several other shales from which oil is distilled, as given in Gesner's work on "Distilled Mineral Oils."

Locality.	Volatile Matter.	Carbon in Coke.	Hygroscopic Water.	Ash.	Sulphur.	Relative per-centage of Volatile Matter.	Relative per-centage of Fixed Carbon.	Remarks.
New South Wales*	78·40	7·60	·80	13·20	Traces	91·17	8·83	Colour dull black, powder brown, very hard, ash white.
Mongonui, N. Z.* .	75·20	9·30	1·80	13·70	Ditto .	88·99	11·01	Ditto.
Torbane Hill ...	70·10	10·30	...	19·60	...	87·19	12·81	Ditto.
Torbane Hill* ...	67·50	7·50	·60	24·40	Traces	89·60	10·40	Ditto.
Breckenridge ...	61·30	30·00	·64	8·05	Ditto .	67·14	32·86	Ditto.
Hillsbrough, Albert County, U. S. ...	61·05	30·65	·86	7·44	Ditto .	66·58	33·42	Ditto.

From an inspection of the above columns it will be observed that while the New South Wales and the Mongonui samples are for all practical purposes alike, and indeed might well have been taken from the same seam, they are both superior, as far as can be judged, to any of the rest, which, it may be remarked, were

* Those marked with asterisks have been examined in this Laboratory.

purposely selected for comparison, on account of their excellent quality.

It should be stated, in order that the value of these oils may be properly appreciated, that the yield of gas from the Torbane mineral is 13,000 cubic feet per ton, of a specific gravity of 0·775, the quantity of crude oil is 120 gallons, of which 65 gallons may be made into lamp oil, 7 gallons of paraffine oil, and 12 lbs. of pure paraffine.

The Breckenridge coal yields 130 gallons, 58 per cent. of which can be manufactured into lamp oil, and 12 gallons into paraffine and paraffine oil.

The Albert coal yields 110 gallons of oil per ton, 70 per cent. of which can be made into lamp oil, and 10 per cent. is heavy oil and paraffine.

These particulars are extracted from the same work on Coal Oil and Petroleum, previously quoted.

It may be noted that the coke from these bituminous shales is used as a disinfectant, being admirably adapted for this purpose from its incoherence and pulverulent structure, by which it affords a large surface. The coke from this particular sample was found to exhibit very decided properties of this kind.

Extracts from Mr. Hunt's Mineral Statistics for 1865.

Extract from Preface (p. vi.)

Coal.—This mineral claims our first notice, as being by far the most important to the country, and one which is now drawing a considerable degree of the public attention, owing to the discussion which has arisen upon the question, whether our coal-fields can endure, without showing signs of exhaustion, the enormous demand which is now made upon them. During 1865 it has been cautiously determined that no less than 98,150,587 tons of coals were raised and used from the 3,256 collieries at work in the United Kingdom. The following is the rate of the increase in production for the last three years.

	Tons.	
1863	88,292,515	
1864	92,787,873	Increase 4,495,358 tons.
1865	98,150,587	,, 5,127,145 ,,

It is not easy to determine the causes to which this large increase may be attributed. Our exportation of coal has not been half a million of tons in excess of the quantity sent from our shores in the previous year, and the slight increase in our iron manufacture will only have required rather more than 300,000 tons of coal, as additional consumption, for the production of pig and merchant iron.

We have, therefore, to account for the consumption of 5,000,000 tons of coals in excess of the quantity used in 1864, by its employment on our railways, in our steam vessels, in our manufactories, and in our domestic consumption. Although it has not been possible to examine with the necessary care the several divisions of this important question, an attempt has been made to do a little towards its elucidation.

RETURN of the Quantity of Coals Exported from the United Kingdom in the following years.

Years.	Coals.	Years.	Coals.
	Tons.		Tons.
1828 ..	357,864	1847 ..	2,483,161
1829 ..	371,271	1848 ..	2,785,300
1830 ..	504,419	1849 ..	2,828,039
1831 ..	510,831	1850 ..	3,351,880
1832 ..	588,446	1851 ..	3,468,545
1833 ..	634,448	1852 ..	3,640,194
1834 ..	615,255	1853 ..	3,935,062
1835 ..	736,060	1854 ..	4,309,255
1836 ..	916,868	1855 ..	4,976,902
1837 ..	1,113,610	1856 ..	5,879,779
1838 ..	1,313,709	1857 ..	6,737,718
1839 ..	1,449,417	1858 ..	6,529,483
1840 ..	1,606,313	1859 ..	7,006,949
1841 ..	1,848,294	1860 ..	7,321,832
1842 ..	1,999,504	1861 ..	7,855,115
1843 ..	1,866,211	1862 ..	8,301,852
1844 ..	1,754,171	1863 ..	8,275,212
1845 ..	2,531,282	1864 ..	8,809,908
1846 ..	2,531,108	1865 ..	9,170,477

EXPORT of Coal from the United Kingdom to Foreign Countries in 1865.

(Extracted from Board of Trade Returns).

	Quantity.	Value.
	Tons.	£
Russia	477,033	217,351
Sweden	244,385	104,603
Norway	169,051	73,386
Denmark	531,286	232,366
Schleswig-Holstein	150,043	57,968
Prussia	577,183	214,045
Mecklenburgh	64,428	24,269
Hanover	82,715	32,045
Oldenburg	34,604	15,007
Hamburgh	551,341	231,336
Bremen	11,093	5,167
Lübeck	24,073	9,803
Holland	234,028	106,201
Belgium	21,810	12,180
France	1,586,327	719,802
Portugal, Azores, and Madeira	159,552	76,234
Spain and the Canaries	409,497	215,987
Italy—		
Sardinian States	284,390	125,822
Tuscany	20,801	9,949
Naples and Sicily	163,652	78,353
Adriatic Ports of Ancona and the Romagna .	29,603	15,363
Austrian territories	97,226	50,663
Greece	33,909	18,848
Ionian Islands	26,907	14,836
Turkey Proper	177,446	91,317
Egypt	333,214	167,580
Algeria	21,324	10,272

	Quantity.	Value.
	Tons.	£
Cape Verd Islands	35,378	18,784
Java	22,490	10,801
Philippine Islands	19,949	11,481
China (exclusive of Hong Kong)	53,304	29,257
Cuba	229,569	118,713
St. Thomas	65,974	34,657
United States—		
North Atlantic Ports	162,887	96,657
South Atlantic Ports	23,037	14,283
Pacific Ports	11,389	7,432
Peru	51,374	34,964
Chile	109,929	56,161
Brazil	215,365	125,910
Uruguay	64,758	37,871
Argentine Confederation	32,660	22,566
Channel Islands	69,838	32,609
Gibraltar	91,622	50,056
Malta	152,893	81,220
British Possessions in South Africa	38,034	21,903
Mauritius	22,806	11,253
Aden	64,162	32,981
British India—		
Bombay and Sinde	149,507	80,520
Madras	23,326	12,310
Bengal and Pegu	44,410	23,347
Singapore and Eastern Straits Settlements	44,944	23,502
Ceylon	51,496	26,490
Hong Kong	44,591	22,862
Australia	24,384	17,283
British North America	171,866	78,503
British West India Islands and British Guiana	130,317	73,818
Other countries	136,718	72,752
Total	8,875,948	4,212,699

Reports from United States' Consuls as to Coal in Nova Scotia and Vancouver's Island.

(Extracted from United States' Report on Foreign Commerce, 1865.

NOVA SCOTIA.

Mr. Norton. Pictou, Nova Scotia.

October 25, 1865.

I HAVE the honour herewith of presenting my annual Report of commercial operations within the limits of this Consular jurisdiction, together with a brief sketch of the numerous discoveries of new beds of coal in various portions of this province. Since my last Report a number of rich beds of coal have been discovered, some of which are now being partially worked. The Island of Cape Breton in this province is one vast coal-field, and gives employment to a large amount of American capital, which will yield a handsome income on the outlay. The following statistics relating to the different mines will be perused with much interest, giving as they do an idea of the immense trade carried on with the United States in this one article of export.

Lingan mines, Cape Breton, employ 195 men and boys. Shipments for the year ended September 30, 1865, were 57,000 tons, of which 56,000 tons were sent to the United States, valued at 127,000 dollars in Nova Scotia currency; value of imports from the United States was 1,700 dollars; amount of tonnage employed 19,800.

Little Glace Bay mine, Cape Breton, employs 300 men and boys. Shipments of coal to the United States for the year ended September 30, 1865, amounted to 90,000 tons, valued in Nova Scotia currency at 225,000 dollars; value of imports from the United States 3,000 dollars, employing 13,500 tons.

International Mining Company, Cape Breton, employ 70 men and boys. Thirteen thousand tons of coal, valued in Nova Scotia currency at 23,000 dollars, were shipped to the United States; imports from the latter amounted to 1,000 dollars; amount of tonnage employed, 4,000.

Block House mine (Cow Bay) Cape Breton, employs 530 labourers. Amount of shipments for the quarter ended 30th of September, 1865, were 165,000 dollars; the imports amounted to 6,000 dollars.

Gowrie mine (Cow Bay), Cape Breton, employs 320 labourers. Value of exports and imports not returned.

Acadia coal mine, Pictou. These mines are located about eight miles from this port. The Company have obtained an act of incorporation from the Nova Scotia Legislature with a capital of 1,000,000 dollars. In the Report of the able mining engineer it would appear that the probable aggregate quantity of coal in two of the tracts will amount to 36,000,000 tons, which would be equal to the production of about 1,000 tons per day for 150 years. * * * * Three thousand six hundred and eight tons of coal were shipped during the quarter ended September 30, 1865. This quantity was mined and brought to the surface without the aid of machinery.

The Albion Mining Company is the oldest in this province. An immense business has been done by it with the United States, most of the coal being shipped to ports in the Northern States; 156,557 tons were raised, of which 122,720 tons were shipped to the United States; 131,629 days' labour were performed by men and boys, and 15,300 by horses.

VANCOUVER'S ISLAND.

Mr. Frances. Victoria, Vancouver's Island.

January 10, 1866.

Explorations during the past year have demonstrated that Vancouver's Island abounds in extensive coal-fields. But one, however, is being successfully worked. This is situated at Nanaimo, about eighty miles from Victoria. From this mine shipments are made to San Francisco, and pay a good profit. The coal is soft, highly bituminous, and answers admirably for steam purposes. British war vessels and those of the United States happening in these waters, and wanting coal, as well as the steamers in the merchant service, get supplies from those mines.

There have also been discovered on Queen Charlotte's Island several beds of anthracite coal, which have been tested here and in San Francisco, and found to be equal to the best Pennsylvania. Efforts are now being made to work these mines the coming season.

It is known that coal equally as good, if not better than that found on this island, abounds in Washington territory; but for the want of that encouragement which is given by the Colonial Government in granting donations of land to those who will successfully develop and work the mines, they may discover the coal-fields of our own territory are lying dormant, and our war and merchant steamers are necessarily dependent upon foreign coal.

CORRESPONDENCE

WITH

HER MAJESTY'S MISSIONS ABROAD,

REGARDING

INDUSTRIAL QUESTIONS

AND

TRADES UNIONS.

Presented to both Houses of Parliament by Command of Her Majesty.
1867.

LONDON:
PRINTED BY HARRISON AND SONS.
1867.

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Correspondence with Her Majesty's Missions abroad regarding Industrial Questions and Trades Unions.

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*Despatch addressed by Lord Stanley to Lord Howard de Walden.**

My Lord, *Foreign Office, January* 17, 1867.

The extent to which foreign industry and production now competes with that of England has of late attracted much attention in this country, and it has been publicly stated that increased production abroad, by diminishing profits at home, is tending seriously to affect British commercial interests, and possibly to divert British capital to a more profitable scene of operations.

The comparatively matured industry and commercial enterprize of England is now brought into active competition with that of foreign countries, which is daily becoming more developed in proportion as nations emerge from the stagnation consequent on internal troubles, a state of war, or of chronic misgovernment.

National resources which have long lain dormant are now brought into productive existence, and the increased faith reposed in the stability of institutions is giving a surer basis for commercial enterprise.

Irrespective, therefore, of any questions as to abstract matters of commercial policy, causes are at work which must influence the mutual relations of nations so far as commercial intercourse is concerned; and it becomes a matter of great interest to ascertain the true facts as regards the productive and commercial development in progress abroad, as regards the results which such development is producing on prices and on wages, and specially as regards the position and prospects of those branches of foreign industry which come most immediately into competition with those of this country.

* Similar instructions were addressed to Mr. Fane at Paris, and to Mr. Morier at Darmstadt.

I have called your Lordship's attention to these points in order that you may the better understand the object with which I now place in your hands the inclosed memorandum, setting forth generally the nature of the information which I should be glad to receive from you both as to the special matters to which I have referred and to others which are naturally connected with them; and in instructing your Lordship to report on these points I have only to add that I shall receive with pleasure any further details bearing on the subject which the local information of your Legation may be in a position to supply.

Your Lordship will understand that while I am desirous to receive a Report on these subjects, you will be at liberty to furnish it at such time as may not interfere with the other business of your Legation.

I am, &c.
(Signed) STANLEY.

Inclosure.

Memorandum.

1. In what particulars has the greatest progress been made during late years in developing the natural resources and the productive industries of Belgium?

2. What have been the consequent results as regards the export trade of Belgium, and specially trade with England?

3. What has been the effect of such increased industrial activity on wages, and on the price of primary articles of consumption? Has there been difficulty in meeting an increased demand for labour, and has that demand been supplied by any displacement in the labour market; as, for instance, by the diversion of labour from agricultural to manufacturing pursuits, or by the introduction of labour from foreign countries?

4. Has an increase in the manufacturing and industrial activity of Belgium been accompanied by combinations amongst the working classes of the nature of Trades' Unions for the purpose of influencing wages? Have such combinations been extended so as to embrace matters of political interest; and are there any legislative provisions which regulate their existence or operation?

5. Do Co-operative Societies exist to any considerable extent amongst the working-classes in Belgium, whether as regards co-operation amongst them alone, or in combination with employers? and have the results of such principle of co-operation been in favour of an extension of the system?

Circular addressed to Her Majesty's Ministers in Europe and the United States.

Foreign Office, April 3, 1867.

A Royal Commission having been appointed to inquire into the action of Trades' Unions, I have to instruct you to furnish, with as little delay as possible, a full report for the use of the Commission on the working of any Trades' Unions which may exist in , comprising all the information which it is in your power to obtain, relative to the laws affecting combinations of workmen, strikes, &c.

The Royal Commissioners also desire to be furnished with the names of any persons, whether employers or workmen, on the Continent who can give them information upon these subjects.

I am, &c.
(Signed) STANLEY.

Reports respecting the Progress of Foreign Industry and Production, Co-operative Societies, &c.

No. 1.

Lord Howard de Walden to Lord Stanley.—(Received February 13.)

My Lord, *Brussels, February* 11, 1867.

The nature of the answers your Lordship instructed me to furnish to the questions sent to me in your Lordship's despatch of the 17th ultimo was so important, that I had to address myself for reliable information to the Department of the Interior, and through the obliging assistance of the Director-General of the Industrial section of that Department, I am enabled to afford the explanation desired in the form of answers to the questions put seriatim on the several matters, and which I herewith inclose.

There can hardly be a difference of opinion about the industry of this country being able to compete in several branches of manufacture with that of Great Britain, very successfully in the foreign and to some extent even in the home markets. The progressive improvement in the character and extent of Belgian manufactures has of late years been very great. This may probably be ascribed to the intelligence of heads of establishments in availing themselves of the advantages afforded to them by the example and resources of machinery of other countries, and in many instances to the instruction derived from skilled foreign workmen, who have been at times engaged partly to direct and partly to instruct the Belgian workmen.

The characteristics of the Belgian workmen are steadiness and perseverance, combined with great intelligence in working after models; their habits are not so expensive as those of English artificers; their diet is more humble—they consume less meat, and their bread is seldom purely wheaten or white in quality. Rye and the cheaper quality of wheat called "epeautre" enters in great proportion into the composition of the loaf; beer and spirits are both lower in price than in England; they seldom use tea, and

the chicory root constitutes a very economical and wholesome substitute for coffee.

Instead of coals and open grates, closed stoves and artificial fuel, made of mere dust of coal and clay worked into lumps, are universally in use.

The system of schools for infants from two to seven years, and from seven to twelve years, is very general, and affords great facilities—the children being cared for—to both their parents to occupy themselves in daily service, and by combined industry to ameliorate the condition of their family. In all these respects, therefore, the necessaries of life being the base of wages, the Belgian enjoys advantages over the British workman.

In general there is no antagonism between masters and men. The terms for services are entirely voluntary; consequently combination for strikes are very rare, except in the mining districts, where, however, they are by no means uncommon, though the people are comparatively better paid. This is difficult to be clearly accounted for, though perhaps the fluctuations in the coal market, and the very great differences in the relative value of coal products, may mislead the workmen as to the rates which it may be supposed the proprietors can afford, and may be brought under dictation to pay. The law prohibits actual coalition between workmen with a view to increase of wages, under a penalty of one to three months' imprisonment; as it does, indeed, also, between masters, for reduction of wages. This affords some check to the influence of the turbulent in organizing serious combined action.

The industry in which the Belgian can best compete with that of Great Britain is perhaps that of fire-arms manufacture. This dates from ancient times. Liége has always enjoyed a reputation for its arms, and almost all countries have at times drawn heavy supplies from her.

Formerly the cheapness of the Liége produce was the main temptation to prefer that market, but of late the manufacturers having met with encouragement in regard to prices, are making admirable arms of the highest class, vieing in excellence with the best of other countries, and of which some beautiful specimens will be seen in the Paris Exhibition.

The construction of machinery has also assumed very extensive proportions, and in that branch of industry is become a distinct competitor with the British manufacturer. The admission, free of duty, of parts of machinery

difficult to be made in this country has been of the greatest utility to the Belgian, and of which he takes the fullest advantage.

In all works composed of sheet-iron, such as stoves or fireplaces, the Belgian workman seems to be remarkably skilful; but it is strange that in other branches of small work for wrought-iron, ordinary ironmongery, &c., &c., they are behind most countries. A good lock and key of the country is not to be found, and it is actually cheaper to buy a good English lock and key together than to have a most ordinary key alone made here for a common lock.

The industry of blacksmiths and farriery is most rude, and such a thing as a tolerable horseshoe is not to be seen; the same may be said of all agricultural implements in use throughout the country, ploughs, carts, waggons, &c., &c.; yet the carriage-building is perhaps an industry in which they are eminently successful and greatly excel.

I notice this circumstance, as it may reasonably be inferred that it is mainly in branches of industry destined for foreign countries, under the stimulant of competition, that the late striking and successful progress has been realized.

The glass-blowing industry has long been a remarkable one in the neighbourhood of Namur, and from cheapness of price (though somewhat defective in shape and colour), has established an extensive foreign demand for its products.

The improvement in the manufacture of looking-glasses within only a few years has been such as to rival the productions of plates in respect to size and beauty of colours, and price, with any similar produce of the world.

The cloth products of Verviers will compete with those of any country, except perhaps for the very finest and novel qualities mainly affected by taste and fashion.

The cotton industry till of late years was neglected, but owing to the falling off of the demand for linen manufactured in the Flanders from handspun thread, several cotton factories have been started and are in work, in some of which the best English machinery has been erected. In one of the cotton manufactories first brought into operation, an English foreman of great intelligence was placed at the head of it, and a considerable number of skilled women were brought from Belfast.

The Belgian manufacturers rarely work on speculation, their operations are usually restricted under orders and

contracts; if their profits are not very great their losses are of rare occurrence, and for this reason they have been enabled to weather storms of financial and commercial crisis which have been overwhelming in other countries. Customers seem to have confidence in them, and relations when once established are seldom forfeited on account of cause for dissatisfaction in business transactions.

Although from the size of Belgium she can hardly be a very formidable competitor with the productive industry of Great Britain, yet the fact that she is a rival and that she turns to account the comparative advantages she enjoys from the persevering and economical character of her labour resources is not to be disregarded; for naturally as circumstances arise which may cripple the operations of the British manufacturer, she will not be backward in taking advantage of them to the benefit of her own industry, and when once known and enabled to obtain a footing in foreign markets she is not likely to be superseded.

I have, &c.

(Signed) HOWARD DE WALDEN AND SEAFORD.

Inclosure in No. 1.

Memorandum.

Question 1. In what particulars has the greatest progress been made during late years in developing the natural resources and the productive industry of Belgium?

Answer. Among natural resources of Belgium, the principal are coal, stone, and iron ore.

Among productive industries, the working of metals in general (and particularly the construction of machinery), of glass, beetroot sugar, fire-arms, the dressing and weaving of flax, and fabrication of woollen goods.

Q. 2. What have been the consequent results as regards the export trade of Belgium, and especially trade with England?

A. The development of the principal manufactures in Belgium has naturally exercised a great influence on the general export trade, which has been increasing rapidly for many years and has caused a considerable increase of labour in the mines and factories.

As regards trade with England, the increase has been

chiefly in the above-mentioned exports, consisting chiefly of spun flax, spun-wool, window-glass, and fire-arms; a detailed account of these is to be found in a report published annually by the Minister of Finance, and regularly transmitted to the Foreign Office.

Q. 3. What has been the effect of such increased industrial activity on wages, and on the price of primary articles of consumption? Has there been difficulty in meeting an increased demand for labour, and has that demand been supplied by any displacement in the labour market, as, for instance, by the diversion of labour from the agricultural to manufacturing pursuits?

A. The increased industrial activity has naturally produced a corresponding increase in wages, as well as in the prices of raw material. Several establishments could yield a greater produce had they but a sufficient amount of hands at their disposal. The demand for workmen, particularly in the coal-mine districts, has raised great pretensions on their part, and has led to several strikes, which, however, have fortunately lasted but a short time, owing to the concessions usually made by the masters.

The development of the manufacturing element has not diverted any considerable number of workmen from agricultural pursuits, neither has it caused any extensive introduction of foreign workmen into Belgium. The agricultural labourers are generally well-paid, and if on the one hand some few foreigners come to Belgium in search of employment a considerable number of Belgians leave their country for the same object, thus affording compensation.

Q. 4. Has an increase in the manufacturing and industrial activity of Belgium been accompanied by combinations among the working classes of the nature of Trades' Unions, for the purpose of influencing wages? Have such combinations been extended so as to embrace matters of political interest, and are there any legislative provisions which regulate their existence or operation?

A. Associations have occasionally been formed among the workmen with a view of maintaining and increasing the rate of wages, but up to the present moment they partake of no political character, and are not affected by any legislative provision. Freedom of association is assured by the Belgian constitution.

Q. 5. Do Co-operative Societies exist to any considerable extent amongst the working classes in Belgium, whether as

regards co-operation amongst them alone, or in combination with employers? and have the results of such principle of co-operation been in favour of an extension of the system?

A. There are but five or six so-called Co-operative Societies in Belgium, formed on the plan of the popular German banks, and a few associations modelled on the Pioneer Society at Rochdale.

As these societies are of recent formation, it is not possible as yet, to judge of their results in a co-operative point of view.

No. 2.

Lord Howard de Walden to Lord Stanley.—(*Received February* 13.)

My Lord, *Brussels, February* 11, 1867.

With reference to my previous despatch I have the honour to transmit a copy of a work on the state of the industry and commerce of Belgium and of the institutions connected with it.

This document contains the fullest and most varied information upon the industry of the country. Unfortunately, it embraces only the period from 1850 to 1860, being a ten-yearly statistical compilation; but, nevertheless, it affords an infinity of instructive details of the utmost interest, not only as regards the rapid progressive development which has of late years attended many important branches of Belgian industry but of the measures, legislative and administrative, which tend to regulate and promote the well-being of the manufacturing classes.

The principal subjects worthy of attention independent of the statistical matter are perhaps those hereafter enumerated:—

1. Council of Industry.
2. Professional Model Schools of Apprenticeship.
3. Association of Mutual Assistance.
4. Rewards to Workmen.
5. Law against Industrial Coalitions.
6. Council of Prud'hommes.
7. Institutions for Promotion of Commerce.
8. Bourses for Commercial Travelling.

Although these various institutions, as here constituted, might not be applicable to Great Britain, yet their action upon the trade of this country having been highly salutary,

and having, no doubt, already given an impulse and direction to its industry, from which the most marked progressive benefits have resulted, and which is still in full development, they cannot fail to be of importance in appreciating the character of competitive rivalry to be contended with in foreign markets.

I have, &c.

(Signed) HOWARD DE WALDEN AND SEAFORD.

Inclosure in No. 2.

Extracts from a Work entitled "De l'Etat de l'Industrie et du Commerce en Belgique, et des Institutions qui s'y rattachent:" par M. J. Clerfeyt, Attaché au Ministère de l'Interieur.

Conseil Supérieur de l'Industrie et du Commerce.—Inspection de l'Industrie.

Conseil Supérieur de l'Industrie et du Commerce.—Ce Conseil a été institué par Arrêté Royal du 27 Mars, 1859.

Il se compose de délégués choisis annuellement par les Chambres de Commerce et de membres nommés par le Roi en dehors de ces colléges. Le nombre de ces derniers ne peut excéder le tiers de ceux qui sont choisis par les Chambres de Commerce.

Un Président et deux Vice-Présidents sont nommés par le Roi pour la durée de chaque session.

Un Secrétaire est attaché au Conseil; il est également nommé par le Roi.

Le Conseil donne son avis sur les affaires qui lui sont soumises par le Gouvernement.

Il discute, au point de vue de l'intérêt général, les vœux émis par les Chambres de Commerce.

Il délibère, en outre, sur les propositions relatives à l'industrie et au commerce, qui sont faites par les membres du Conseil, soit au nom des Chambres de Commerce, soit en leur nom personnel.

Les Ministres de l'Intérieur et des Affaires Etrangères fixent, de commun accord, l'époque de la réunion du Conseil en Assemblée Générale.

Les délibérations du Conseil sont publiées par les soins du Gouvernement.

Les fonctions de membre du Conseil sont gratuites. En cas de déplacement, il leur est alloué des frais de route et de séjour.

Un règlement, déterminant l'ordre des travaux du Conseil, a été arrêté, de commun accord, par les Ministres de l'Intérieur et des Affaires Etrangères, sous la date du 14 Mai, 1859 ; il a été approuvé par le Roi le 15 du même mois.

Etablissements d'Enseignement Professionnel.

On connaît la haute utilité de l'enseignement professionnel. Soit qu'il ait pour but d'élargir le cercle des connaissances théoriques du travailleur, ou d'accroître son habileté pratique, il améliore la condition de ce dernier à tous les points de vue ; il l'élève dans la hiérarchie du travail et le conduit par le bien-être aux idées d'ordre et de moralité ; par l'influence de cet enseignement, l'esprit d'invention se développe chez l'ouvrier, le goût s'épure chez l'artisan, la connaissance qu'ils acquièrent du dessin leur permettant de réaliser leurs conceptions, de leur donner un corps pour ainsi dire, et de s'en rendre un compte bien exact. Au point de vue général, ce concours d'agents plus parfaits stimule la production et améliore les conditions dans lesquelles elle s'exerce, pour le plus grand intérêt du corps social tout entier.

Ce caractère de haute utilité qu'offre pour les classes ouvrières et l'industrie en général la diffusion des connaissances professionnelles, a été apprécie de bonne heure dans quelques grands centres manufacturiers, où l'autorité communale a fait des sacrifices sérieux en vue d'ériger des écoles appropriées aux besoins particuliers des populations. Cet exemple n'a pas tardé d'être suivi par d'autres communes, siéges d'industries également importantes ; les pouvoirs publics à tous les degrés se sont fait un devoir d'encourager d'aussi louables efforts. Aujourd'hui, que l'on peut juger du chemin parcouru, l'étude de l'ensemble de ces institutions ne laisse pas que d'offrir un vif intérêt.

Nous passerons en revue les diverses institutions d'enseignement professionnel que les besoins variés de l'industrie ont fait établir dans le pays. On comprend qu'à raison même de cette diversité, les bases d'organisation de ces établissements diffèrent, par certains côtés, de commune à commune. Cependant au point de vue du but qu'ils poursuivent et de la destination en vue de laquelle ils ont été créés, on peut les classer en deux catégories bien distinctes : les ateliers d'apprentissage, où se donne un enseignement industriel pratique du degré inférieur, et les écoles industrielles, à la fois théoriques et pratiques, qui

constituent le second degré de l'enseignement professionnel.

Les ateliers d'apprentissage sont organisés sur des bases généralement uniformes; ils ont pour but exclusif de former de bons ouvriers pour le tissage; enfin, ils ont été institués spécialement en vue des populations Flamandes.

Les écoles industrielles offrent moins d'homogénéité; leurs principes d'organisation, leurs programmes d'études sont variables comme les nécessités auxquelles elles ont pour but de satisfaire, bien que dans toutes, à raison de la haute importance que l'industrie y attache, la connaissance du dessin professionnel fasse l'objet du cours principal; mais ce cours s'adresse ici plus particulièrement à la fabrication des étoffes et des tapis; là, à l'art du constructeur de machines; plus loin, à la coupe et à l'appareillage des pierres, &c.

Il en est de même des autres branches d'enseignement. Quant au but, les écoles industrielles diffèrent des ateliers d'apprentissage, en ce qu'elles ont pour objet la propagation des connaissances nécessaires à l'exercice des arts et métiers en général; elles forment des contre-maîtres, des artisans, voire même des directeurs de fabrique. Voilà les principaux points qui caractérisent chacune de ces catégories d'institutions.

Il nous reste à les étudier l'une et l'autre d'une manière spéciale.

Ateliers modèles d'apprentissage.—Les ateliers modèles d'apprentissage, établis depuis 1841 dans les Flandres et le Hainaut, ont continué de fonctionner pendant la période décennale 1851–60, sauf certains changements survenus dans le cours de ces années, soit par la suppression d'ateliers nouveaux, soit par la suppression d'ateliers anciens.

On sait que ces institutions sont destinées à former de bons ouvriers par l'enseignement des meilleurs procédés connus dans certaines branches de l'industrie manufacturière, et specialement dans les manipulations relatives à l'industrie linière, au tissage des toiles.

* * * *

Le Tableau ci-après indique les différents genres de fabrication qui sont enseignés dans les ateliers, le nombre des ouvriers qui y sont occupés, celui des ouvriers qui ont été formés depuis la création des ateliers, et, enfin, le salaire moyen qu'ils reçoivent.

Genre de Fabrication.	Nombre d'Ouvriers Occupés.	Nombre d'Ouvriers formés depuis la création des Ateliers jusqu'au 31 Déc., 1860.	Salaire Moyen		Observations.
			Des Ouvriers formés.	Des Apprentis.	
			Fr. c.	Fr. c.	
FLANDRE OCCIDENTALE.					
Toiles	1,100	6,500	1 25	0 50	
Tissus de lin ouvragés et damassés (essuie-mains, linges de table, toiles à matelas, &c.)	200	1,300	1 60	0 55	
Tissus de coton (siamoises, molletons, cotonnettes, nankins, étoffes légères mélangées genre de Roubaix)	500	2,500	1 40	0 55	
Rubans de soie, soieries, foulards imitation des Indes	35	120	2 0	0 85	
Broderies	35	45	f. 0 90	f. 0 30	Atelier des femmes.
FLANDRE ORIENTALE.					
Toiles	750	2,500	1 40	0 60	
Etoffes diverses, mélangées de coton et de laine	350	1,050	1 55	0 65	
Tissus de lin ouvragés et damassés (linges de table)	200	500	1 90	0 75	
Tissus de coton (cotonnettes, siamoises, &c.)	70	100	1 35	0 55	
Tissus de laine et de demi-laine (châles, demi-châles, flannelles, tartans, &c.) ...	25	75	2 0	0 65	
Broderies au métier plumetis (mousselines et basins brodés, genres de Saint-Quentin, Tarare et Saint-Gall) ...	1,600	...	h. 1 85 f. 0 65	0 50	Ouvriers des deux sexes.
Broderies pour ornements d'église, confection de bonets de femmes, &c. ...	65	90	f. 0 80	f. 0 30	Atelier des femmes.
Fil de mulquinerie	40	450	f. 0 50	f. 0 30	Idem.
Velours et peluches de soie	75	...	2 25	0 75	
Velours de coton	40	140	1 50	0 75	
Soieries (unies et façonnées, satins, &c.) .	110	...	2 0	0 75	
HAINAUT.					
Etoffes pour pantalons	60	550	1 50	0 65	
Totaux	5,255	15,920			

Comme on le voit, l'allocation qui figure au budget du Ministère de l'Intérieur pour couvrir ces dépenses a pu subir, d'année en année, des réductions assez notables ; la moyenne de celles-ci n'a pas été de moins de 9,000 francs depuis 1852.

En Mars 1860, le Gouvernement voulant s'éclairer sur le point de savoir si les subsides de l'Etat en faveur des ateliers devaient cesser dans un avenir plus ou moins prochain, ou si, au contraire, l'intérêt des populations et de l'industrie des provinces Flamandes exigeait qu'ils fussent permanents, fit procéder à une enquête.

Il est résulté de cette enquête, dont les documents furent communiqués à la Chambre des Représentants le 16 Novembre, 1860, qu'à de très-rares exceptions près, les ateliers d'apprentissage sont considérés par toutes les autorités compétentes comme des institutions nécessaires à l'instruction professionnelle des populations Flamandes, ainsi qu'à la prospérité des industries qu'elles exercent, et

qu'il y avait lieu de les maintenir comme établissements permanents, après avoir introduit certaines modifications dans leur organisation actuelle.

Lors de la discussion du budget du Ministère de l'Intérieur pour l'exercice de 1861, les Chambres, appréciant les services rendus dans les Flandres par les ateliers d'apprentissage, et ceux qu'ils pouvaient rendre encore, en aidant non-seulement à transformer les procédés de travail, mais encore à introduire dans ces provinces plusieurs branches nouvelles d'industrie, ont, sur la proposition du Ministre de l'Intérieur, classé parmi les charges ordinaires et permanentes du Budget, l'allocation destinée à ces établissements, laquelle allocation reste fixée à 54,000 francs.

Par suite de cette décision et de l'enquête qui l'avait précédée, est intervenu un Arrêté Royal, en date du 10 Février, 1861, qui détermine d'une manière précise les conditions auxquelles le concours de l'Etat sera subordonné à l'avenir.

Nous reproduisons ci-après, en substance, les dispositions essentielles de l'Arrêté susmentionné :

Comme par le passé, les frais des ateliers d'apprentissage sont supportés en partie par l'Etat, en partie par la province, et en partie par les communes.

Ne sont subsidiés sur les fonds de l'Etat et de la province, que les ateliers institués ou adoptés par les communes, avec ou sans l'intervention des bureaux de bienfaisance ou des particuliers, et destinés à former de bons ouvriers, en suppléant à l'absence ou à l'insuffisance des moyens ordinaires de l'apprentissage et de l'enseignement professionnel. L'institution ou adoption des ateliers doit être réclamée par délibération des Conseils communaux intéressés et approuvée par la députation permanente du Conseil Provincial.

Les ateliers subsidiés sur les fonds de l'Etat ou de la province sont dirigés par une Commission Administrative dont les Membres et le Secrétaire-Trésorier sont nommés, sur l'avis des administrations communales, par le Gouverneur de la province pour le terme de trois ans.

Les fonctions des Membres des Commissions Administratives sont gratuites. Une indemnité peut être accordée aux Secrétaires-Trésoriers.

L'enseignement primaire est donnée dans les ateliers par l'instituteur communal ou par tout autre agent choisi par l'autorité locale, en conformité de l'Article 10 de la Loi du 23 Septembre, 1842.

La durée de l'enseignement est au moins de deux heures par jour.

Des contre-maîtres instructeurs, nommés et révoqués, sur l'avis des Commissions Administratives, par le Gouverneur de la province, sont chargés de l'instruction professionnelle des apprentis. Nul ne peut être attaché à un atelier en qualité de contre-maître instituteur, s'il ne sait lire, écrire et calculer, d'après le système décimal, et s'il n'a prouvé, en outre, qu'il est en état d'enseigner aux apprentis tous les détails théoriques et pratiques des branches d'industrie exercées dans l'atelier, et notamment du montage des métiers, ainsi que du tissage des toiles fines et des étoffes façonnées pour ceux de ces établissements destinés à l'enseignement du tissage.

Pour être admis dans un atelier, il faut être âgé de douze ans au moins et avoir l'aptitude voulue pour exercer la branche d'industrie qui y est enseignée.

Les apprentis qui possèdent l'instruction primaire peuvent, par exception, être admis avant l'âge de douze ans, et en cas de parité d'âge, ils seront toujours reçus de préférence.

Une rétribution fixée par la Commission Administrative peut être exigée des apprentis non indigents.

Les Commissions Administratives veillent à ce que le travail des apprentis soit toujours en rapport avec leurs forces physiques.

Dans aucun cas, la durée de la journée de travail ne peut dépasser douze heures : elle est partagée de manière que les apprentis ne soient pas astreints au travail pendant plus de quatre heures consécutives.

Un salaire fixé par la Commission Administrative, en raison de leur aptitude et des conditions stipulées avec les entrepreneurs d'industrie pour le travail de l'atelier, est alloué aux apprentis.

Une retenue, qui ne peut être inférieure à 5 pour cent, ni dépasser 10 pour cent, est faite sur le salaire. Le montant de cette retenue est versé dans une caisse spéciale et employé, s'il y a lieu, lors de la sortie des apprentis, à l'achat de l'outillage dont ils ont besoin pour exercer à domicile leur métier.

Les apprentis tisserands sont exercés avec soin, non-seulement au tissage proprement dit, mais aussi à la préparation des chaînes, au rentrage des fils en lisse, ou montage des métiers d'après la décomposition des échantillons

et la lecture des dessins ou dispositions, en un mot à tout ce qui fait partie de l'art du tisserand.

Les apprentis doivent fréquenter régulièrement l'atelier et l'école qui y est annexée, jusqu'à ce qu'ils aient terminé leur instruction professionnelle et acquis l'habileté d'ouvriers complétement formés, pouvant se passer ultérieurement de l'assistance d'un contre-maître instructeur. A leur sortie, un certificat constatant leur aptitude et leur conduite leur est délivré, s'il y a lieu, par la Commission Administrative.

Le travail des ateliers se fait au compte des industriels qui fournissent la matière première. La préférence est donnée aux fabricants qui offrent les conditions les plus avantageuses à l'ouvrier, tant au point de vue du salaire que de l'instruction professionnelle.

Les Commissions Administratives, secondées par les contre-maîtres instructeurs, prennent les dispositions nécessaires pour qu'au moyen du travail à façon, obtenu aux conditions les plus avantageuses, il soit pourvu aux besoins de l'instruction professionnelle des apprentis. Elles peuvent à cet effet, et en cas de nécessité, conclure, sous l'approbation du Ministre de l'Intérieur, des conventions dont la durée ne dépasse pas le terme de deux années.

Un règlement d'ordre intérieur est arrêté par la Commission Administrative de chaque atelier, sous l'approbation de la députation permanente.

Les Commissions Administratives dressent les projets de budgets et arrêtent les comptes des ateliers, sous l'approbation de la députation permanente du Conseil Provincial et du Ministre de l'Intérieur.

La surveillance des ateliers, quant à l'instruction et à l'administration, est exercée par les autorités communales, d'après les dispositions de la Loi du 30 Mars, 1836, par les inspecteurs désignées en conformité de l'Arrêté Ministériel du 13 Mars, 1842, ainsi que par l'Inspecteur de l'Industrie, d'après les indications du Ministre de l'Intérieur.

Il est accordé, dans les limites des allocations des budgets, aux apprentis qui, à leur sortie des ateliers en sont jugés dignes, à raison de leur aptitude et de leur conduite, des récompenses pécuniaires destinées, soit à compléter le prix d'achat d'ustensiles perfectionnés, en cas d'insuffisance des retenues, soit à pourvoir à d'autres besoins dérivant de l'exercice de leur métier.

Ecoles Industrielles.—Ces écoles, fondées pour la plu-

part par les communes avec le concours de la province et de l'Etat, sont au nombre de dix . . . . .

Les locaux sont fournis par les communes, auxquelles incombe aussi la charge de leur entretien.

Bien qu'il concourût chaque année dans les dépenses auxquelles donnaient lieu ces établissements, le Gouvernement n'intervint pas d'une manière directe dans leur direction jusqu'en 1859, et laissa jusqu'alors aux communes la garde à peu près exclusive des hauts intérêts qui s'y rattachaient. Mais, à dater de cette époque, le Gouvernement, dans le but de les soumettre aux principes généraux en matière d'instruction publique, réorganisa la plupart de ces établissements sur des bases plus stables, y établit l'unité de direction, révisa les programmes d'études, accrut, en un mot, la somme des avantages qu'en retiraient les classes ouvrières. Il fit inscrire dans les règlements les garanties qu'il était en droit d'exiger à raison de son intervention. Ces garanties consistent dans le droit d'inspection, dans l'approbation des programmes des cours, des budgets et des comptes, et dans la transmission à la fin de l'année scolaire d'un rapport sur la situation de l'école et sur les résultats produits par l'enseignement.

Nous résumons ci-après les principes d'organisation générale de ces écoles, tels qu'ils se trouvent réglés par les dispositions nouvelles actuellement en vigueur.

L'enseignement est gratuit, sauf à l'Institut d'Anvers. On n'est admis à l'école qu'à un âge déterminé et à la suite d'examen constatant que l'on possède des connaissances générales préalables, telles qu'on les puise dans les cours supérieurs des écoles primaires ; mais il y a pour les adultes des cours du soir qui servent, au besoin, d'écoles préparatoires, et auxquels sont renvoyés les élèves qui ne sont pas en état de subir l'examen d'admission.

Des certificats de capacité peuvent être délivrés aux élèves qui, ayant terminé leurs études, prouvent qu'ils connaissent les matières enseignées dans l'établissement.

Chaque école est confiée aux soins d'une Commission Administrative. Son personnel se compose d'un directeur, de professeurs, et d'un ou de plusieurs surveillants nommés par le Conseil Communal et agréés par le Ministre de l'Intérieur.

La Commission fixe les heures des cours, donne son avis sur la nomination du personnel, dresse les projets de budgets, arrête les comptes, fait les règlements d'ordre

intérieur, sauf approbation du Conseil Communal, et exerce une haute surveillance sur les études et la discipline.

Elle adresse au Ministre de l'Intérieur un rapport annuel sur la situation de l'école.

Le directeur est ordinairement choisi parmi les professeurs ; il est chargé de la direction des études et de l'exécution des dispositions réglementaires qui concernent l'enseignement et la discipline.

Sociétés de Secours Mutuels.

La Loi sur les Sociétés de Secours Mutuels est du 3 Avril, 1851. Nous avons déjà fait connaître son but, ainsi que les avantages qu'elle procure aux sociétés reconnues ;* nous nous bornerons donc ici à exposer les résultats obtenus durant la période de 1852 à 1860.

Les associations dont nous avons à nous occuper sont :—

1. Les sociétés de secours mutuels reconnues.
2. Les sociétés de secours mutuels qui, sans être reconnues, envoient annuellement, à titre officieux, leurs comptes à l'autorité administrative.
3. Les sociétés pour l'achat de provisions d'hiver reconnues.
4. Les sociétés de même genre non reconnues et qui communiquent également leurs comptes annuels.

Au 31 Décembre, 1860, le nombre total de ces associations s'élevait à 91, et elles comptaient 19,796 membres. Le Gouvernement a ordonné une enquête sur les associations de prévoyance existantes en Belgique au 31 Décembre, 1861 ; les renseignements, encore incomplets, qui lui sont parvenus, se rapportent à 291 sociétés, dont 230 comptent environ 45,000 membres effectifs ; en 1850 le nombre total des sociétés était de 211, et celui des affiliés de 24,367. Il ressort à l'évidence de la comparaison de ces chiffres que l'esprit d'association va se développant dans notre pays ; il en résulte, d'autre part, que la Loi du 3 Avril, 1851, n'a pas été sans produire quelque fruit, puisqu'elle a eu pour effet de mettre l'administration en relation plus ou moins directe avec le tiers environ des associations actuellement connues.

Avant d'entrer dans d'autres détails, nous rappellerons

* Voir le précédent "Exposé de la Situation Administrative du Royaume," titre III, chap. vii, p. 314 et suiv.

que les sociétés de secours mutuels ont pour principal objet d'assurer à leurs membres des secours temporaires en cas de maladie, de blessures, ou d'infirmités. Ces secours comprennent, d'une part, les soins du médecin ou de chirurgien, les médicaments, &c. ; d'autre part, un secours pécuniaire. La plupart des sociétés pourvoient, en outre, aux funérailles de leurs membres décédés, et, lorsque leurs ressources le permettent, elles accordent à la veuve ou aux enfants du défunt un ou plusieurs secours temporaires ; la Loi du 3 Avril, 1851, leur défend de promettre des pensions viagères, l'expérience ayant démontré que ces pensions dépassent les limites de leurs ressources. Certaines sociétés ont pris des mesures pour l'affiliation de leurs membres à la caisse générale de retraite ; mais comme les membres les plus jeunes peuvent seuls, avec leurs économies et l'appui que leur assure l'association, se créer des pensions de retraite, ces sociétés ont eu soin, en même temps, de constituer un fonds de secours en faveur de ceux de leurs membres déjà trop âgés pour se procurer des rentes suffisantes à la caisse de retraite.

A peu d'exceptions près les sociétés de secours mutuels admettent des membres honoraires ou protecteurs, et leurs statuts stipulent que les membres effectifs seul participent aux avantages de l'association. Leurs ressources se composent de produit des cotisations des membres effectifs et des membres honoraires ; du produit des amendes encourues dans les cas prévus par les statuts, et des droits d'entrée exigés des membres nouvellement admis ; des subventions éventuelles de l'Etat, de la province et de la commune ; des dons et legs faits à la société ; enfin, des intérêts des fonds placés.

Les cotisations des membres effectifs se payent communément par semaine, rarement par mois, et elles varient, dans le premier cas, de 10 à 30 centimes, et dans le second, de 50 centimes à 2 francs.

Les subventions accordées par l'Etat n'ont pas, jusqu'ici, dépassé le taux de 300 francs ; elles ont eu exclusivement pour objet d'aider des associations nouvellement reconnues à couvrir leurs frais de premier établissement.

A la suite de la Loi du 3 Avril, 1851, est intervenu l'Arrêté Royal du 12 Mai, qui a chargé une Commission permanente de s'occuper des questions relatives à l'exécution de la loi. Cette Commission est consultée sur tout ce qui intéresse les sociétés de secours mutuels, et notamment sur les demandes en reconnaissance légale. Elle adresse

chaque année au Ministre de l'Intérieur un rapport contenant l'exposé des opérations faites par les diverses sociétés que nous avons indiquées plus haut.

* * * * *

Des Sociétés de Secours Mutuels non reconnues.—Le nombre des sociétés qui ont envoyé officieusement à l'administration le compte de leurs opérations annuelles, a été de 31, en 1852 ; de 30, en 1853 ; de 40, dans chacune des quatre années suivantes ; de 34, en 1858 ; et de 42, en 1859. Il n'est guère possible de donner un aperçu complet de leur situation, car, soit indifférence, soit prévention, ces associations ne fournissent en général que des documents très defectueux.

Sociétés pour l'Achat de Provisions d'Hiver reconnues.—La Loi du 3 Avril, 1851, a admis à la participation des avantages accordés aux sociétés de secours mutuels, les associations ayant pour but de faciliter aux associés l'accumulation de leurs épargnes, pour l'achat d'objets usuels, de denrées, &c.

Ces associations ont pris peu d'extension en Belgique ; aussi, le nombre de celles qui se sont fait reconnaître est-il fort restreint.

Dans la plupart des sociétés pour l'achat de provisions d'hiver, les cotisations ne sont perçues que pendant six mois de la bonne saison. Plusieurs de ces associations étendent leurs opérations à l'achat d'objets de vêtement, d'utensiles de ménage, &c. En général, elles distribuent à prix réduit les denrées achetées pour l'hiver, et il arrive fréquemment par là que leurs dépenses excèdent leurs ressources.

Décorations de Travailleurs Industriels.

Un Arrêté Royal du 7 Novembre, 1847, a institué un signe de distinction en faveur des travailleurs industriels qui, à une habileté reconnue, joignent une conduite irréprochable.

Il y a deux classes de décorations : l'une en argent, l'autre en or. Les décorations sont décernées par Arrêté Royal.

D'après l'Arrêté d'Institution, ces récompenses ne pouvaient être données qu'à l'occasion des expositions de l'industrie nationale, sur la proposition de jury ; mais, par suite des concours internationaux de Londres et de Paris, ces expositions, en revêtant un caractère nouveau, sont devenues moins fréquentes, de sort qu'en diverses circonstances on a dû déroger à la règle établie.

Pour régulariser cet état de choses, un Arrêté Royal du 28 Février, 1861, en étendant le bénéfice de l'institution aux patrons des chaloupes de pêche et aux pêcheurs, a établi de nouvelles règles d'après lesquelles la décoration pourrait être accordée en dehors des expositions.

Les règles qui président actuellement à la distribution de ces récompenses sont ci-après indiquées.

A la suite des expositions industrielles, l'habileté de l'artisan et de l'ouvrier est constatée :

1. Lorsqu'il expose un produit remarquable façonné par lui ;

2. Lorsqu'un industriel, ayant envoyé à l'exposition un objet remarquable, déclare que l'ouvrier a pris une part marquante à la fabrication ou à la production de cet objet. Pour les produits non susceptibles d'être exposés, on admet comme preuve de l'habileté de l'ouvrier le rapport de l'entrepreneur d'industrie qui l'emploie.

Le jury s'éclaire sur la bonne conduite des ouvriers qu'il estime avoir donné des preuves d'habileté ou d'intelligence remarquables.

La décoration en argent est accordée comme première récompense ; celle en or ne s'obtient qu'à un second concours, et quand le décoré a donné des preuves nouvelles d'intelligence, de progrès et de conduite exemplaires.

En dehors des expositions, les titres des travailleurs peuvent être reconnus et admis, à savoir :

(A.) Pour les travailleurs industriels, sur les rapports des entrepreneurs d'industrie, des administrations communales et des Chambres de Commerce ;

(B.) Pour les patrons de pêche et les pêcheurs, sur les rapports des armateurs, des administrations communales, et des Commissions de Pêche.

Depuis la date de l'institution jusqu'au 1 Janvier, 1861, le Gouvernement a distribué, pour l'industrie, 42 décorations de première classe et 950 de seconde classe.

Coalitions Industrielles.

En Belgique, tout coalition ou concert préalable, ayant pour but, soit de faire baisser abusivement les salaires, soit de suspendre, d'empêcher ou d'enchérir le travail, est prohibée d'une manière absolue.

La coalition entre patrons, pour forcer injustement et abusivement l'abaissement des salaires, suivie d'une tentative

ou d'un commencement d'exécution, est, aux termes de l'Article 414 du Code Pénal, punie d'un emprisonnement de six jours à un mois, et d'une amende de 200 à 3,000 francs.

L'Article 415 punit d'un emprisonnement d'un mois au moins et de trois mois au plus, lorsqu'il y a eu tentative ou commencement d'exécution, toute coalition de la part des ouvriers pour faire cesser en même temps de travailler, interdire le travail dans un atelier, empêcher de s'y rendre et d'y rester avant ou après certaines heures. D'après l'Article 416, la même peine est encourue par les ouvriers qui auront prononcé des amendes, des défenses, des interdictions, ou toutes proscriptions sous le nom de damnations, et sous quelque qualification que ce puisse être, soit contre les directeurs d'ateliers et entrepreneurs d'ouvrages, soit les uns contre les autres. Dans l'un ou l'autre des cas prévus par les Articles 415 et 416, les chefs ou moteurs sont punis d'un emprisonnement de deux à cinq ans. Ils peuvent, de plus, après l'expiration de leur peine, être mis sous la surveillance de la haute police pendant deux ans au moins et cinq ans au plus.

La Chambre de Commerce de Mons ayant, dans le courant de 1859, demandé la réforme de la législation relative au délits de coalition, le Gouvernement fit ouvrir une enquête dans laquelle furent entendues les Chambres de Commerce. La majorité de ces colléges se prononça pour l'abrogation de cette législation. Trois Chambres seulement se montrèrent favorables à son maintien. Dans le sein d'une dernière Chambre, les opinions divergentes ayant rencontré un nombre égal de voix, il n'y a pas eu de décision dans un sens ni dans l'autre.

Consulté par le Gouvernement sur la question des coalitions, le Conseil Supérieur de l'Industrie et du Commerce a émis l'avis qu'il y avait lieu d'abroger les Articles 414, 415, et 416 du Code Pénal, et de ne comminer des pénalités que contre les coalitions qui sont accompagnées de violences ou d'autres infractions, qui sont faites contrairement à des contrats, ou qui tendent à porter atteinte à la liberté du travail.

On ne peut se dissimuler, en effet, que, dans ses Articles précités, la Loi Pénale n'ait confondu deux faits essentiellement distincts : la résolution concertée de ne vendre ou de n'acheter une marchandise qu'à certaines conditions, puis la contrainte exercée pour imposer cette résolution concertée à des personnes restées étrangères à la délibération.

Or, le premier de ces deux faits est essentiellement licite. Le droit de propriété emporte nécessairement pour tout citoyen le droit de régler comme il l'entend le prix de son travail ou du produit de ce travail. L'exercice de ce droit, légitime pour chacun de nous isolément, ne saurait rationnellement donner lieu à un délit, par ce fait même qu'il est concerté entre plusieurs. Tel est cependant le caractère que donne à cet accord le Code Pénal; celui-ci, en traitant différemment la coalition entre les maîtres et la coalition entre les ouvriers, sanctionne une double injustice. D'une part, il réprime la coalition des ouvriers tendant à la hausse des salaires, quelque légitimes que leurs prétentions puissent être; de l'autre, il ne réprime la coalition des maîtres, tendant à la baisse des salaires, qu'autant que la coalition ait lieu injustement et abusivement. Pour les ouvriers seuls, le fait de se réunir, de s'entendre, de s'associer, est punissable, alors même qu'il n'y a pas de manifestation extérieure; les violences ne sont, dans le système de la Loi Pénale de 1810, qu'une circonstance aggravante du délit. Il n'y a évidemment pas lieu de punir ce fait: proscrire la coalition simple, le seul accord des volontés, en l'absence de tout acte qui tendrait à imposer à ceux qui n'ont point pris part à la délibération, la résolution concertée, c'est-à-dire, empêcher l'exercice du droit d'association appliqué à certains intérêts matériels, est une injustice que les représentants légaux du commerce et de l'industrie Belges voudraient, avec raison, voir disparaître de nos Codes. Il leur a semblé, au contraire, qu'il y avait lieu de punir le fait de coalition, lorsqu'il entraîne avec lui l'emploi de menaces, de violences, ou de tous autres moyens d'intimidation, ou qu'il a lieu en violation des contrats.

La Chambre des Représentants, en séance du 30 Mars, 1860, s'est prononcée pour le même système.

Conseils de Prud'hommes.

Les Conseils de Prud'hommes, établis dans le royaume sous le régime de la Loi du 18 Mars, 1806, des Décrets du 11 Juin, 1809, et 3 Août, 1810, et des Lois des 9 Avril, 1842, 4 Mars, 1848, et 4 Juin, 1850, et dont la nomenclature se trouve dans le premier rapport décennal, ont tous, à l'exception de celui de Louvain, continué d'exercer leurs fonctions pendant la période décennale de 1851 à 1860.

Les Lois des 9 Avril, 1842, 4 Mars, 1848, et 4 Juin, 1850,

n'avaient rien changé aux bases essentielles de la législation Impériale. Cependant, depuis longtemps cette législation réclamait de notables améliorations ; elle n'était plus en harmonie avec les progrès et les besoins de notre époque.

A la suite d'une instruction complète, un projet de loi fut présenté par le Ministre de l'Intérieur, M. Ch. Rogier, à la Chambre des Représentants, dans la séance du 19 Février, 1858. La Loi, votée par les Chambres et promulguée le 7 Février, 1859, fut rendue exécutoire par Arrêtés Royaux en date des 24 Février, 1859, et 10 Avril, 1861.

D'après la nouvelle loi, aucun Conseil de Prud'hommes ne peut être établi que par une loi : cette loi en détermine le ressort.

Un Arrêté Royal règle le nombre des membres et la composition de chaque Conseil. Les membres des Conseils sont élus, non-seulement par les patrons, mais aussi par les chefs d'atelier, contre-maîtres et ouvriers à livret portés sur les listes électorales.

Peuvent être électeurs : 1. Les chefs d'industrie nés Belges ou naturalisés, âgés de vingt-cinq ans accomplis, sachant lire et écrire, domiciliés et exerçant leur industrie depuis quatre ans au moins dans le ressort du Conseil ; 2. Les chefs d'atelier, contre-maîtres et ouvriers réunissant les mêmes conditions.

Sont électeurs de droit : 1. Les chefs d'industrie admis au nombre des notables pour l'élection des membres des Tribunaux de Commerce ; 2. Les ouvriers qui ont obtenu la décoration instituée pour récompenser l'habileté et la moralité, par l'Arrêté Royal du 7 Novembre, 1847 ; 3. Ceux qui ont opéré à la caisse générale de retraite ou à une caisse d'épargne le versement d'une somme de 100 francs au moins ; 4. Ceux qui ont obtenu par Arrêté Royal une récompense pour acte de courage et de dévouement.

Sont éligibles, les électeurs âgés de trente ans accomplis.

Sont également éligibles, les chefs d'industrie retirés et les anciens ouvriers, pourvu qu'ils réunissent les autres conditions de capacité. Les patrons, réunis en assemblée particulière, nomment les prud'hommes chefs d'industrie. Les ouvriers, également réunis en assemblée particulière, nomment les prud'hommes ouvriers : les contre-maîtres et chefs d'atelier comptent parmi les ouvriers.

L'élection a lieu par scrutin de liste, et nul ne peut être élu au premier tour de scrutin, s'il ne réunit plus du

tiers des voix. La majorité relative suffit quand il doit être procédé à un second tour de scrutin.

Le nombre des membres des Conseils de Prud'hommes est de six au minimum et de seize au maximum.

Il est nommé, près de chaque Conseil, quatre suppléants au moins et huit au plus.

Le Président et le Vice-Président du Conseil sont nommés, par Arrêté Royal, sur une liste double de candidats choisis par le Conseil dans son sein ou en dehors ; leurs fonctions durent trois années, et ils peuvent être nommés de nouveau.

Le greffier est nommé par Arrêté Royal, sur la présentation d'une liste double de candidats dressée par le Conseil.

Les Conseils de Prud'hommes sont renouvelés par moitié tous les trois ans. Le sort désigne ceux des Prud'hommes qui doivent être remplacés la première fois. Les Prud'hommes sont ré-éligibles. Chaque Conseil forme dans son sein un bureau qui a pour mission de concilier les parties ; ce bureau se compose d'un prud'homme chef d'industrie et d'un prud'homme ouvrier.

Aucune affaire ne peut être déférée au Conseil qu'après avoir été soumise au Bureau de Conciliation.

Les parties sont tenues de comparaître en personne. Toutefois, en cas d'empêchement légitime, le Conseil peut les autoriser à se faire représenter par un commis, un chef d'industrie, un contre-maître ou un ouvrier. Elles ne peuvent se faire assister par un défenseur.

Le Conseil ne peut siéger que moyennant la présence d'un nombre égal de prud'hommes patrons et de prud'hommes ouvriers.

Cependant, si, à une seconde audience, les membres présents ne se trouvent point dans les conditions requises pour siéger, il peut être passé outre au jugement des affaires, quelle que soit la composition du Conseil, pourvu que le nombre des prud'hommes titulaires et suppléants ne soit pas inférieur à quatre.

Les Conseils de Prud'hommes peuvent réprimer, par voie disciplinaire, tout acte d'infidélité, tout manquement grave, et tout fait tendant à troubler l'ordre et la discipline de l'atelier. La peine ne peut excéder 25 francs ; à défaut de payement, l'amende est remplacée par la mise aux arrêts, qui ne peuvent excéder trois jours.

Les jugements des Conseils de Prud'hommes sont définitifs et sans appel, lorsque la demande n'excède pas

200 francs en capital. Au-dessus de 200 francs, les jugements sont sujets à l'appel devant le tribunal de commerce, sauf pour les affaires des mines, dont connaît le tribunal civile de première instance.

Measures to promote Commerce.

Depuis qu'une auguste parole a signalé au pays l'infériorité de notre commerce d'exportation par rapport à notre industrie si développée aujourd'hui et la nécessité de remédier à cet état de choses préjudiciable à la prospérité nationale, le Gouvernement cherche, avec une louable sollicitude, les moyens propres à relever notre commerce d'outre-mer de sa déchéance relative.

Il a élargi et amélioré les cadres de notre corps Consulaire, notamment en majorant d'une somme de 25,000 francs le crédit destiné à rémunérer les services des agents qui le composent, afin de subvenir à la dépense nécessaire pour créer un Consulat-Général de la Belgique en Chine.

Il a sollicité et obtenu des Chambres une somme égale, pour être mise à la disposition de quelques jeunes gens ayant fait en Belgique de bonnes études commerciales, afin de leur permettre d'étendre et de fortifier leurs connaissances en voyageant à l'étranger.

Enfin, il a institué un prix de 5,000 francs en faveur de l'auteur de l'ouvrage qui exposera de la manière la plus complète les moyens propres à développer l'industrie, l'agriculture, et le commerce de la Belgique dans leurs rapports avec les marchés de consommation en dehors de l'Europe (Arrêté Royal du 20 Mai, 1861).

Parmi les moyens que l'on a signalés comme propres à ouvrir de nouveaux débouchés à notre industrie ou à élargir ceux qu'elle a abordés, il faut citer les suivants : organisation de comptoirs dans les parages où, pour prendre pied et s'étendre, le commerce réclame des combinaisons spéciales; création de société d'exportation ; envoi de jeunes négociants Belges à l'étranger.

Comptoirs Commerciaux.—Un des moyens que de tout temps on a considéré comme étant des plus efficaces pour développer l'écoulement de nos produits et organiser un commerce régulier entre la Belgique et les pays lointains, c'est l'établissement dans les ports maritimes qui servent de marchés aux colonies, de comptoirs Belges—émanations, en

quelque sorte, de maisons commerciales établies en Belgique.

Les avantages résultant d'institutions de ce genre sont de diverses natures ; elles inspirent notamment une plus grande confiance au commerce de notre pays, qui y puise des motifs plus puissants de nouer des relations d'affaires avec les contrées où ces comptoirs sont établis ; elles facilitent à l'industrie Belge la connaissance des marchés et des besoins précis auxquels il s'agit de satisfaire ; procurent aux négociants intermédiaires des relations, des occasions plus favorables pour les retours, et parviennent ainsi presque toujours à ériger le véritable commerce d'échange, si profitable aux pays qui le pratiquent.

Dans diverses circonstances, le Gouvernement a été sollicité dans le but d'accorder son intervention pécuniaire à l'effet de parvenir à la création d'établissements de ce genre dans quelques parages de l'autre hémisphère et dans certains ports du Levant.

D'autres établissements ont été créés sans le secours du Gouvernement et produisent le plus grand bien pour le pays. Parmi les principaux comptoirs créés dans ces conditions se rangent ceux de la Havane et de Valparaiso et celui érigé au Brésil.

Les Belges qui sont parvenus à fonder des maisons de commerce à l'étranger sont dans des conditions particulièrement favorables pour pouvoir nous fournir des débouchés. Ils savent ce que notre industrie est capable de produire pour les pays où ils sont établis, et peuvent non-seulement lui donner les indications dont elle a besoin pour ce genre de fabrication, mais encore placer eux-mêmes ses productions ; leur participation aux profits de ces opérations garantit un concours intelligent et dévoué. Aussi l'expérience a-t-elle prouvé que nos expéditions ont pris de l'extension dans les ports où des négociants Belges se sont établis, comme à Rio Janeiro, New York, Valparaiso et quelques autres malheureusement peu nombreux. Ces négociants sont les pionniers les plus actifs de notre industrie et de notre marine marchande.

Bourses de Voyage.—Nous devons mentionner comme se rattachant plus ou moins directement à l'institution des comptoirs commerciaux et des sociétés d'exportation, l'allocation des subsides, dans le but de permettre à des jeunes gens de talent et d'avenir, d'aller étudier dans les pays

lointains le commerce et les moyens propres à développer les rapports d'affaires.

Les bourses de voyage ont été instituées pour la première fois en Belgique par l'Arrêté Royal du 21 Juillet, 1848. Le but de l'institution n'ayant pas été tout d'abord bien compris par le public, le "Moniteur" du 25 Août, 1848, fit connaître les conditions que devaient remplir les personnes qui se présenteraient au choix du Gouvernement. "Les bourses," dit le "Moniteur," "ont une double destination. Elles doivent, ou bien permettre aux jeunes gens qui se vouent au commerce ou à l'industrie, de compléter d'une manière pratique leurs études—les préparer à exercer leur profession avec une somme plus large et plus variée de connaissances acquises aux sources mêmes; ou bien faciliter aux jeunes négociants qui sont disposés à aller fonder à l'étranger un établissement commercial les moyens d'exécuter leur projet. Il faut, en règle générale, l'intention arrêté et réalisable d'entreprendre des affaires. Quant aux conditions que doivent réunir les candidats pour que leur demande puisse être accueillie, à part celles qui dérivent de ce qui a été exposé plus haut, les principales sont les suivantes: être Belge; posséder des connaissances commerciales et industrielles générales; avoir des notions sur l'industrie, le système de douanes, les relations de commerce de la Belgique; être âgé de dix-huit ans au moins et de trente ans au plus."

Plusieurs bourses de voyage ont été accordées, à la suite de cet Arrêté; elles ont, en général, porté les meilleurs fruits. Non-seulement les jeunes gens qui en ont été dotés ont fait la connaissance des pays qu'ils ont parcourus—ont pu reconnaître les besoins de leurs populations et fournir aux industriels Belges des renseignements précieux pour y satisfaire—mais ils ont, en outre, pu jeter les bases de relations les plus avantageuses et de nature à produire des résultats certains.

* * * * *

Frappée des avantages qui offrirait, au point de vue de la création de maisons Belges dans les contrées lointaines, l'envoi de jeunes Belges en pays étranger, la Commission des Vœux de 1860 proposa, à l'unanimité, la création de bourses de voyage semblables à celles qui, dans les sciences ou dans les arts, sont le prix glorieux de succès universitaires ou académiques.

* * * * *

Stimulé par un vœu formel émis par le Conseil Supérieur de l'Industrie et du Commerce, le Gouvernement demanda aux Chambres un crédit de 25,000 francs pour être affecté à cette destination. Cette somme, déjà allouée au budget du Ministère des Affaires Etrangères pour 1861, fut encore votée par les Chambres au budget de 1862 du même Département; elle figure derechef au projet de budget de 1863.

Les bases nouvelles de l'institution des bourses ont été jetées par l'Arrêté Royal du 19 Février, 1862, pris par le Gouvernement, les Chambres de Commerce entendues. L'Article 2 de cet Arrêté porte: "Nul ne pourra obtenir de bourse de voyage s'il n'est porteur d'un diplôme de capacité délivré par un jury d'examen. Sont dispensés du dit examen les élèves sortis avec un diplôme de capacité de l'Institut Supérieur de Commerce d'Anvers." La valeur des bourses est déterminée d'après l'aptitude dont les diplômes font preuve, les pays qu'ils visitent, et la durée de leur séjour à l'étranger. L'allocation ne peut, en aucun cas, porter sur une période de plus de trois années; elle peut être retiré au terme de chaque année.

No. 3.

Lord Howard de Walden to Lord Stanley.—(Received April 10.)

My Lord, *Brussels, April 9, 1867.*

I HAVE the honour to acknowledge the receipt of your Lordship's despatch of the 3rd instant, instructing me to furnish a full Report on the working of Trades' Unions in Belgium, as well as all information within my reach relative to the laws affecting combinations of workmen, strikes, &c.

Although the present law of Belgium places no restriction whatever upon the formation of societies amongst workmen for the protection or advancement of their interests, the working classes have not hitherto availed themselves of the right of coalition. There are no Trades' Unions or Co-operative Societies existing in Belgium.

It is only recently, however, that the law has sanctioned the right of workmen to coalesce with a view to enhance the price of labour. Until last year all organized attempts on the part of workmen to raise the price of

labour, as well as all attempts on the part of employers unduly to bring about a reduction of the rate of wages, were forbidden and punishable by the following Articles (414 and 415) of the Penal Code :—

" Art. 414. Toute coalition entre ceux qui font travailler des ouvriers, tendant à forcer injustement et abusivement l'abaissement des salaires, suivie d'une tentative ou d'un commencement d'exécution, sera punie d'un emprisonnement de six jours à un mois, et d'une amende de 200 à trois 3,000 francs.

" Art. 415. Toute coalition de la part des ouvriers pour faire cesser en même temps de travailler, interdire le travail dans un atelier, empêcher de s'y rendre et d'y rester avant ou après de certaines heures, et en général pour suspendre, empêcher, enchérir les travaux, s'il y a eu tentative ou commencement d'exécution, sera puni d'un emprisonnement d'un mois au moins et de trois mois au plus.

" Les chefs ou moteurs seront punis d'un emprisonnement de deux ans à cinq ans."

The above stringent Articles of the Penal Code were repealed by a Law (a copy of which is annexed), which only came into operation on the 31st of May last.

The substance of this law is contained in the following Article :—

" Art. 2. Sera puni d'un emprisonnement de huit jours à trois mois et d'une amende de vingt-six francs à mille francs ou de l'une de ces deux peines seulement, toute personne qui, dans le but de forcer la hausse ou la baisse des salaires, ou de porter atteinte au libre exercice de l'industrie ou du travail, aura commis des violences, proféré des injures ou des menaces, prononcé des amendes, des défenses, des interdictions ou toute proscription quelconque, soit contre ceux qui travaillent, soit contre ceux qui font travailler.

"Il en sera de même de tous ceux qui par des rassemblements près des établissements où s'exerce le travail, ou près de la demeure de ceux qui le dirigent, auront porté atteinte à la liberté des maîtres et des ouvriers."

The new law, it will be seen, does away altogether with the invidious distinction drawn by the Penal Code between combinations of employers and combinations of workmen, and removes all legal impediments to the full exercise of the right of coalition by either employers or workmen.

The penalties imposed under this law are solely directed against attempts to fetter or control the liberty of others by means of intimidation or by actual violence.

There are a few associations in Belgium of the nature of benefit societies for the relief of their members in case of sickness and old age, but these cannot be established without the permission of the Government, and without having submitted their proposed statutes for official sanction. The Burgomaster, or a member of the Municipal Council of the place which may be the seat of the Association, has a right to assist at the meetings, and every year the Association is required to render to the Municipal Council an account of its receipts and expenditure during the preceding year.

In cases of dispute between masters and operatives the Council of Prud'hommes often renders valuable services in a conciliatory sense. This institution seems to be well received, and to work well.

Your Lordship will find a copy of the laws under which these Councils are established, and their attributes defined, and which derive their origin from the "Code Napoleon," in page 29 of the work entitled "Code Industriel."* In page 232 of that work your Lordship will find copies of the laws under which are organized the "Sociétés de Secours Mutuels."

In respect to the names of persons competent to give information on the above subjects, I shall mention M. Warocque, coal-mine proprietor at Marimort; M. Dorlodot, ironmaster, near Charleroy; and M. Fortamps, Governor of the Bank.

I have, &c.

(Signed) HOWARD DE WALDEN AND SEAFORD.

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* "Code Industriel ou Recueil des Lois et Dispositions concernant l'Exercice de l'Industrie, suivi d'un Formulaire :" Brussels, Bruylant-Christophe et Cie., Editeurs, Place Saint-Jean, 12. 1857.

Inclosure in No. 3.

Extract from the "Moniteur Belge" of June 11, 1866.

Ministère de la Justice.

Loi portant des Peines contre les Infractions relatives à l'Industrie, au Commerce et aux Enchères Publiques, et abrogeant les Articles 412 *à* 420 *du Code Pénal.*

LEOPOLD II, Roi de Belges, à tous présents et à venir, salut.

Les Chambres ont adopté et nous sanctionnons ce qui suit:

Article 1. Celui qui aura méchamment ou frauduleusement communiqué des secrets de la fabrique dans laquelle il a été ou est encore employé, sera puni d'un emprisonnement de trois mois à trois ans, et d'une amende de 50 à 2,000 francs.

Art. 2. Sera puni d'un emprisonnement de huit jours à trois mois et d'une amende de 26 francs à 1,000 francs, ou de l'une de ces deux peines seulement, toute personne qui, dans le but de forcer la hausse ou la baisse des salaires, ou de porter atteinte au libre exercice de l'industrie ou du travail, aura commis des violences, proféré des injures ou des menaces, prononcé des amendes, des défenses, des interdictions ou toute proscription quelconque, soit contre ceux qui travaillent, soit contre ceux qui font travailler.

Il en sera de même de tous ceux qui, par des rassemblements près des établissements où s'exerce le travail, ou près de la demeure de ceux qui le dirigent, auront porté atteinte à la liberté des maîtres et des ouvriers.

Art. 3. Tous ceux qui, par des moyens frauduleux quelconques, auront opéré la hausse ou la baisse du prix des denrées ou marchandises ou des papiers et effets publics, seront punis d'un emprisonnement d'un mois à deux ans et d'une amende de 300 francs à 10,000 francs.

Art. 4. Tout commandant des divisions militaires, des provinces ou des places et villes, tout Gouverneur ou Commissaire d'arrondissement, qui aura, dans l'étendue des lieux où il a le droit d'exercer son autorité, pratiqué de pareilles manœuvres ou qui y aura participé, soit ouvertement, soit par des actes simulés ou par interposition de

personnes, encourra, indépendamment des peines prononcées par l'Article précédent, l'interdiction des droits énoncés aux trois premiers numéros de l'Article 42 du Code Pénal de 1810.

Art. 5. Ceux qui, par attroupement et par violences ou menaces, auront troublé l'ordre public dans les marchés ou les halles aux grains, avec le dessein de provoquer le pillage ou seulement de forcer les vendeurs à ce dessaisir de leurs denrées à un prix inférieur à celui qui résulterait de la libre concurrence, seront punis d'un emprisonnement de trois mois à deux ans.

Les chefs ou moteurs seront punis d'un emprisonnement de six mois à trois ans, et placés sous la surveillance spéciale de la police pendant cinq ans au moins et dix ans au plus.

Art. 6. Les personnes qui, dans les adjudications de la propriété, de l'usufruit ou de la location des choses mobilières ou immobilières, d'une entreprise, d'une fourniture, d'une exploitation ou d'un service quelconque, auront entravé ou troublé la liberté des enchères ou des soumissions, par violences ou par menaces, soit avant, soit pendant les enchères ou les soumissions, seront punies d'un emprisonnement de quinze jours à six mois et d'une amende de 100 francs à 3,000 francs.

Art 7. Les Articles 412 à 420 du Code Pénal de 1810 sont abrogés.

Promulguons la présente loi, ordonnons qu'elle soit revêtu du sceau de l'Etat et publiée par la voie du "Moniteur."

Donné à Bruxelles, le 31 Mai, 1866.

(Signé) LEOPOLD.

Par le Roi :

Le Ministre de la Justice,

(Signé) JULES BARA.

Scellé du sceau de l'Etat :

Le Ministre de la Justice,

(Signé) JULES BARA.

No. 4.

Mr. Fane to Lord Stanley.—(Received April 5.)

My Lord, *Paris, March* 31, 1867.

I REGRET that the pressure of other public business has obliged me to postpone a report upon the questions which form the subject-matter of your Lordship's despatch to me of the 8th ultimo. Some of those questions, referring to the industrial and productive progress of France, have furnished the materials of special reports by my predecessors and myself; and I propose in this place to deal rather with their results than with their details. Other questions, such as those which regard the supply and distribution of labour, and the co-operative tendencies of employers and employed, offer a comparatively new and wide field of inquiry, and I purpose to examine them as fully as possible.

1. *Material Progress of France.*

The remarkable progress which has been made in developing the natural resources and the productive industries of France is indicated by the fact that her "special" commerce valued 900,000,000 francs in 1825; 1,700,000,000 in 1845; 4,000,000,000 in 1860; and about (the tables being not completed) 6,400,000,000 in 1866: or in other words, that the actual trade of France with foreign countries is more than sevenfold greater than it was forty years ago. The completed figures for the first ten months of last year show the proportions in which France figures as producer and consumer in this international barter, her imports in that period valuing 2,486,000,000 of francs, while her exports valued 2,822,000,000.

The increase in the productive powers of France has of late years been chiefly remarkable in her manufacturing industries. While her agriculture has suffered periods of great depression, her various industries have not only steadily progressed, but have acquired an enormous impulse from the liberal commercial legislation of the last seven years. The importation of the raw material, the consumption of coal, the exports of the manufactured article, are the measures of industrial activity in a country;

and it will be seen that the indications given under these several heads all point to one result.

In the first ten months of last year, France imported 96,500,000 kilogrammes of cotton against 49,000,000 in the corresponding period of 1865. From England alone she imported cotton to the value of 137,594,000 francs, showing an increase of 46,000,000 francs over the importation in the corresponding period of 1865; and wool to the value of above 75,000,000 francs, showing an increase of 14,000,000 francs. From Belgium she imported wool to the value of 16,500,000, showing an increase of 4,000,000. From Germany, wool to the value of 15,000,000; while from Italy she imported silk to the value of 79,500,000 francs, or above 6,000,000 more than in the first ten months of 1865. As regards the consumption of coal in France, it is estimated that the produce of the French mines (which was nearly 115,000,000 quintaux métriques in 1865) will be found, when the tables for 1866 are complete, to have risen to above 120,000,000 quintaux métriques last year. In 1857 it was 79,000,000 quintaux métriques, and shows, therefore, an increase of 41,000,000 in ten years. In 1864, the imports of coal amounted to 66,330,500 quintaux métriques, in 1865 to 72,243,927 quintaux métriqnes, showing an increase of 5,913,420; while the exports in 1864 amounted to 3,428,600 quintaux métriques, and in 1865 to 3,406,000 quintaux métriques, showing a decrease of 22,600 quintaux métriques. It will be found that the results indicated by the large increase in the importation of the raw material, and in the consumption of coal, are fully established by the progressive exportation of manufactured articles which will come immediately under review in dealing with the second section of this inquiry, which refers to the export trade of France, especially with England.

The development of the mineral wealth of France is making rapid progress. In the past year the Government have granted concessions for the working of thirteen new mines, making a total of 1,184, viz., coal mines, 598; iron mines, 249; and other mines, 337. The production of the coal mines and iron works of France during the past year is estimated at a value of 472,000,000 francs.

As regards the agricultural progress of France, it will be seen presently, in comparing the export tables, how far

the relative increase of natural produce has remained behind that of manufactures; but notwithstanding seasons of considerable depression, during which the low prices of grain created a species of panic amongst farmers, there is incontrovertible evidence that the riches of the soil are contributing largely to the prosperity of the country.

The harvest of last year was as regards cereals a bad one, the wheat crop, which is the most important in France, falling about 18 per cent. below that of an average year. On the other hand, the diminished production in this crop has been partially compensated by increased value; the price of wheat, which ranged in the early part of the year between 16 and 17 francs per hectolitre, having attained an average of 25 francs at the end of December, showing an increase of from 8 to 9 francs per hectolitre on the prices realized at the corresponding period of the preceding year. The movement of trade in other articles of agricultural produce shows very satisfactory results; the exports of cattle, sheep, butter, poultry, game, eggs, and wine manifesting, as will be seen hereafter, a large increase.

2. *Export Trade.*

The progress of the export trade of France during the last few years has been as follows:—

The exports from France of objects of French manufacture generally valued 2,266,400,000 francs in 1859: they valued 2,924,200,000 francs in 1864; showing an increase of 657,800,000 francs in five years.

If these gross returns be resolved into their constituent elements it will be found that those industries which it was supposed would suffer most severely by competition have steadily increased, and in some instances have made extraordinary progress.

The export of woven cotton goods valued 67,200,000 francs in 1859, and 93,700,000 francs in 1864, showing an increase of above 26,000,000 francs.

The exports of woollen goods valued 180,600,000 francs in 1859, and 355,900,000 in 1864, having very nearly doubled in value.

The exports of cotton and woollen yarns valued 6,900,000 francs in 1859, and 21,600,000 in 1864, showing an increase of 14,700,000 francs.

The exports of hemp and flax yarns valued 1,000,000

francs in 1859, and 21,500,000 francs in 1864, showing an increase of 20,500,000 francs.

The exports of linen woven goods valued 15,400,000 francs in 1859, and 24,500,000 francs in 1864, showing an increase of above 9,000,000 francs.

The exports of metal goods, excluding machinery, valued 43,700,000 francs in 1859, and 45,100,000 francs in 1864, and the exports of machinery rose in the same period from 6,800,000 francs to 9,500,000 francs.

As regards the trade with England alone the exports rose from 591,277,000 francs in 1859, to 904,441,000 francs in 1864, showing an increase of 313,164,000 francs in five years.

The value of manufactures exported was 309,076,000 francs in 1859, and 521,974,000 francs in 1864, showing an increase of 212,898,000 francs.

Of these totals the exports of cottons rose in that period from 5,742,000 francs to 12,671,000 francs, woollens from 39,178,000 francs to 98,512,000 francs; yarns from 406,000 francs to 8,842,000 francs; linens fell from 3,331,000 francs to 3,103,000 francs; metal goods rose from 4,395,000 francs to 8,912,000 francs; and earthenware, glass, &c., from 4,398,000 francs to 5,993,000 francs.

The exports of raw produce rose from 282,201,000 francs in 1859 to 382,467,000 in 1864, showing an increase of rather more than 100,000,000 francs in five years. It has been seen that the increase in the exportations of manufactures in the same period was above 212,000,000 francs, so that the industrial progress is indicated by figures twice as great as those which represent the development of natural productions.

In order to show how far this relative rate of progress in the two branches of French exports to England has been recently modified, I will review briefly the principal items quoted in the latest statistics which give the results of the first ten months of 1866, as compared with the corresponding period of the preceding year:—

	1866. 10 months.	1865. 10 months.
	Francs.	Francs.
Cattle	25,317,000	13,731,000
Eggs	37,574,000	31,961,000
Butter	46,026,000	34,367,000
Cereals	47,285,000	25,946,000
Flour	47,768,000	6,225,000
Wine	39,717,000	29,136,000
Brandies	48,233,000	27,479,000
Silk tissues	225,965,000	187,137,000
Woollen ditto	95,994,000	80,125,000
Cotton ditto	9,110,000	7,266,000
Prepared skins	25,627,000	19,622,000
Leather goods	41,409,000	34,144,000
Hosiery, &c.	55,233,000	42,310,000
Millinery, &c.	13,072,000	8,925,000

Thus, the increase in the above exports was, in round numbers, as follows: cattle 12,000,000 francs; eggs 6,000,000 francs; butter 12,000,000 francs; cereals 22,000,000 francs; flour 41,000,000 francs; wine 10,000,000 francs; brandies 20,000,000 francs; silk tissues 38,000,000 francs; woollen tissues 15,000,000 francs; cotton tissues 2,000,000 francs; prepared skins 6,000,000 francs; leather goods 7,000,000 francs; hosiery, &c., 13,000,000 francs; and millinery 5,000,000 francs.

It should be remarked, however, that the large increase in the exports of cereals and flour is quite exceptional, and took place during the first half of the period, when the prices in the French corn market ranged very low. The two branches of commerce appear on the whole to maintain now a healthy rivalry, and to contribute more evenly than they did to the general increase of trade. The total exports to England in the first ten months of 1866 valued 889,915,000 francs, against 680,428,000 francs in the corresponding term of 1865, showing an increase of 209,487,000 francs in favour of the latter period.

3. *The Labour Market.*

The rapid development of industrial enterprise in the country by increasing the demand for labour in a ratio much greater than the relative increase in the sources of supply, has raised the general rate of wages in France. It is, however, necessary to distinguish between real wages, meaning their exchangeable value with reference to the ordinary articles of consumption, and money wages. If

the latter be alone considered it may be affirmed that the average rise in the rate of wages in France during late years has been very considerable, the rate of increase having varied, however, in different trades.

In the mines and forges under the direction of Messrs. Schneider and Co., called Le Creusot, 9,950 workpeople are employed, of whom only 250 are women. The annual expenditure on wages is about 10,000,000 francs. The mean rate of wages has risen, between the years 1850 and 1866, from 2 francs 50 centimes to 3 francs 45 centimes per diem, representing an increase of 38 per cent. Some of the workmen earn from 8 to 10 francs a-day; and the wages of children when first employed vary from 1 franc 50 centimes to 2 francs a-day. But in these and many other establishments in France, including those next cited, great facilities are given to the workpeople, at the partial expense of the proprietors, for feeding, lodging, clothing and educating themselves and their families, which will be more particularly referred to hereafter, but which require mention here as increasing the nominal salaries paid to the workpeople. In the present case 700 families of operatives are lodged by the Company at 50 per cent. below the normal rate of house rent, and 700 gardens let to them at the nominal price of 2 francs per annum.

In the printing and binding establishments of M. Alfred Mame at Tours, in which 1,000 workpeople of both sexes are employed, the actual rate of wages per diem ranges from 90 centimes to 2 francs 50 centimes for women, and from 3 francs 70 centimes to 8 francs for men, while the engravers earn from 10 francs to 12 francs.

A recent quotation of the wages ruling in the great manufacturing town of Roubaix shows that good workmen are earning from 6 francs to 8 francs; women, from 3 francs to 5 francs; and children 1 franc 50 centimes per diem.

In a large clothing establishment at Paris, directed by Messrs. Bessaud and Co., 2,000 workpeople are regularly employed, and the current rate of wages per diem is, for good workmen, from 5 francs 50 centimes to 6 francs 50 centimes; for inferior workmen, from 2 francs 50 centimes to 3 francs 50 centimes; for good workwomen, from 3 francs 50 centimes to 4 francs; for inferior workwomen, from 2 francs to 2 francs 50 centimes.

In the military clothing establishment of M. Dusangtoy

at Paris 3,300 workpeople are employed—viz., 800 men, 2,000 women, and 500 children—who received in wages during the year 1866 a sum of 2,500,000 francs. The rate of wages for men ranges from 5 francs to 10 francs a day; for women, from 2 francs 50 centimes to 4 francs; and for children, from 1 franc to 2 francs.

The general rate of money-wages may be said to have increased about 40 per cent. in the last fifteen years; but this by no means implies a corresponding rise in the real wages of the workman. The rise in the price of money-wages has been accompanied by a very considerable rise in the price of the ordinary articles of consumption and of lodging; so that the improvement in the position of the labourer, meaning his power to supply himself with the necessaries and comforts of life, has been far from commensurate with the rise in the money-value of his labour. Still, the relative proportions in which money-wages and the price of commodities have risen leave a margin in favour of the former, and to this extent there has been a rise in real wages, which enables the labourer to feed, lodge, and clothe himself somewhat better than he could fifteen years ago. The change in the value of money has affected, of course, equally the nominal price of labour and of commodities, and the greater relative rise in wages is the natural consequence of an increase in the capital employed in industrial enterprize, and may also have been affected by the greater facilities afforded to the labourer by the influence of opinion, and recently by legislation, to claim a larger share in the profits of production.*

The demand for labour consequent on the impetus given to manufacturing activity has tended to drain it from the rural districts, and congest it in the great towns. This result has been also largely promoted by the vast building operations which have been carried on by the State and municipal bodies in the great cities of France, and especially in Paris. The consequences have been very seriously felt in the agricultural districts, where the dearth of labour has at times entailed great embarrassment and heavy losses on the farmers. It does not appear that any

* It is difficult to estimate the relative price of labour in England and France. The rate of money-wages may be higher in one country than in the other; but no just comparison can be instituted unless the quantity and quality of labour supplied in each case is fairly appraised. It is a question which only experts can decide, and on which they are known to differ.

attempt has been made to supplement the deficiency of rural labour by importations from abroad; but, on the other hand, a large number of foreign workmen—chiefly Belgian, German, and English—are employed in the manufacturing towns. In the town of Mulhouse alone there are more than 8,000 German workmen, and the number of Belgians employed at Roubaix is stated to be nearly 15,000; but it is difficult to say whether these foreign workmen have been imported for the special aptitude which they possess for particular branches of trade, or to supply merely numerical deficiency in the labour market. There is at this moment a strike among the workers in bronze of Paris, and it is reported that their employers, deeming the demands made upon them to be exorbitant and inadmissible, contemplate the importation of workmen from Berlin, where the industries in bronze are largely practised.

4. *Combinations to influence Rate of Wages.*

Combinations amongst workmen for the purpose of influencing wages have recently become general in France, They are now not illegal, except when accompanied by violence, menace, or fraudulent procedure.

The Penal Code formerly comprised the most rigorous stipulations against combinations of workmen. They were characterized as misdemeanours, and the promoters of them could be punished by imprisonment of two to five years' duration. The combination of employers for the purpose of unjustly depressing the rate of wages ("tendant à forcer injustement et abusivement l'abaissement des salaires") was also punishable by law, but with far less severity.

Under these laws (Articles 414, 415, and 416 of the Code Pénal of 1810) many prosecutions were instituted, heavy pains and penalties were inflicted, and the labouring class deprived of all power of concerting measures for the enforcement of just claims, was left very much at the mercy of employers, whose affirmation in a question affecting wages was believed in a Court of Justice, while that of the workman was held worthless (Article 1781 of the Code Civil). No change was made in these laws until the year 1829, when a modification in them was introduced, which left their fundamental and essential conditions untouched and merely equalized the penalties against

employers and workmen, to satisfy the principle of the equality of all citizens in the eye of the law.

Some interesting statistics relating to the number of persons prosecuted under these laws between the years 1853 and 1862 will be found annexed.

But at the latter date a considerable agitation had already begun in favour of the substitution of a humane and liberal law in the place of enactments which, besides being harsh and unjust, were unsatisfactory in their operation. The subject was soon taken into consideration by the Imperial Government in a liberal spirit, and at the commencement of the year 1864 a Project of Law was presented to the Legislative body for abolishing the penalties attaching to simple combinations either of employers or of workmen for the purpose of influencing the rate of wages. It is preceded by an interesting historical sketch of the legislation, not only of France but of foreign countries, on combinations among employers and workmen, to which is added an exposition of the principles on which the Project of Law is framed. This Project was referred by the Legislative body to a Commission, of which M. Emile Ollivier was the Reporter. His valuable Report explains the modifications introduced by the Commission into the Government Project.

The Law thus modified was promulgated by Imperial Decree on the 27th of May, 1864. It simply substitutes for the then existing Articles of the Code Pénal three new Articles, which define the penalties to be awarded to combinations, accompanied by violence, menace, or fraudulent procedure, among employers or workmen for the purpose of causing a concerted cessation of work, with a view to influence wages or interfere with the liberty of trade or of labour. All other combinations (that is to say, such as are unaccompanied by violence, menace, or fraudulent procedure) are legalized by implication. In other words, the right of peaceful and orderly combination exists, and the law only interferes with what are familiarly termed "strikes" and "lock-outs" when they assume a criminal character.

It must be said that ample advantage has been taken of this change in the disposition of the law by the workmen. There is scarcely a trade in France of which, during the last three years, the members have not combined for the purpose of increasing the rate of wages and diminishing the duration of labour, and their efforts to this

end have usually met with success. "Strikes," either general or partial, have been of common occurrence. At the present moment there is a "strike," as already mentioned, among the workers in bronze, whose requisition for an increase of wages has, it is said, assumed the form of a demand for a share of two-fifths in the profits of their employers, the books of the latter to be submitted to a Committee charged to ascertain the amount of profits realized. "Strikes" are also threatened by the skin-dyers engaged in the glove trade, and by the carvers in wood, and another is actually in progress among the slaters and plumbers at Rouen.

Many disputes, however, between employers and employed have been settled by the friendly intervention of the State authorities. Neither can hold a meeting without previously obtaining the sanction of the Prefecture of Police, and the application for such sanction has frequently furnished the occasion for an amicable mediation which has brought about an understanding between the disputants.

It should be said that the combinations to which reference has been made are, as far as is known, unconnected with political matters. By assuming a political character, they would at once come under the prohibitory action of the law.

It remains to consider under this head what has been the influence of the new law on combinations. There are of course two parties to be heard in the case. The workmen generally admit that the faculty to combine, of which they have largely availed themselves, has enabled them to raise the rate of their money-wages, and to obtain some diminution in the hours of labour, and that the law has consequently been of benefit to them. The employers, on the contrary, for the most part assert that the law has proved to them an unmitigated evil, and they have loudly denounced and continue to denounce it, as subjecting them to the tyrannous coercion of the employed. Precisely the same complaints as are heard just now on this subject in England may be heard in France.

It is asserted that the workpeople, by striking for exorbitant wages when they know that their employers have a time-contract on hand, can force ruin upon the latter, and that many contracts have been rejected owing to the impossibility of working them at a profit while the price of labour is artificially raised. These contracts, it is asserted, pass into the hands of foreign manufacturers, who have not

yet fallen under the tyranny of their workmen; and the trade of the country suffers in this way the most serious detriment.

There are, indeed, plenty of prophets of evil who declare that either the unjust pretensions of the workpeople must be controlled by law or that the manufacturing industries of France will be ruined. These assertions, like all *ex parte* statements, probably exaggerate the evil of which they complain; but there is sufficient truth in them to lead men of moderate judgment to the conclusion that an inquiry on the subject such as is about to be instituted in England must eventually be made also in France.

The question appears to be this—how the right of the workpeople, which nobody in the present day would think of withdrawing from them, to combine for the protection of their just interests, can be regulated so as to deprive them of the power to prejudice the equally just interests of their employers. It is clear that such power is theirs if they can force an employer either to complete a contract under conditions which entail a loss, or to throw it up under penalties. But this is, after all, an exceptional case, which presupposes that a particular body of workpeople take advantage of fortuitous circumstances to demand a rate of wages higher than that fixed by the operation of the law of demand and supply. If the wages demanded be not higher than the ruling price of labour in the market, the employer, it is true, must necessarily concede it or throw up his contract; but in this case the hardship he suffers may be attributed to his own improvidence or miscalculation in entering into a bad bargain. If the wages demanded be, on the contrary, higher than the ruling price of labour, the employer will, generally speaking, find substitutes for the workpeople who may leave him rather than abandon their exorbitant claims.

In either case, therefore, justice will be ultimately determined by the ordinary action of economic laws; but while the dispute lasts great injury may unquestionably be inflicted both upon the employer and the employed: and it is clearly a matter of great moment to all parties to devise, if possible, some means of obviating the incessant recurrence of such disputes.

To discuss scientifically the methods calculated to attain that end is altogether beyond the province of this paper; but some indication may be attempted of the results to which the dissensions between the employers and the

employed in France seem to point. According to the ruling practice, the workman is interested only in the amount of wages he may obtain from his employer; he is not interested in that amount relatively to the profits to be derived from the work on which he is engaged. He has, therefore, a strong inducement to force up the rate of his wages irrespective of all other considerations, and, although he will never succeed in maintaining that rate above the market-price of labour, his attempt to do so may, under peculiar circumstances, drive away trade from the home to the foreign market, and entail at least many temporary evils. But if the workman were made a party to the contract for work—if, in other words, the wages he earned were dependent on the profits to be realized—he would take a wider and juster view of the preliminary demands which he might put forward in any particular case, and his eventual remuneration would be determined by the more or less advantageous issue of the business in which he was employed.

But if the proposition to which these considerations lead be admitted, that labour should receive not a hypothetical share (which wages represent) but a *bonâ fide* share in the profits or losses arising from work, the difficulties attending the practical application of that theory are beyond doubt of a very grave and complicated nature. The first question to be decided is the proportion in which profits shall be divided between capital and labour; the second is, how labour, which has nothing to lose, can in any real sense take a share of losses, or, in other words, how far the workman can conscientiously take part in a commercial venture; the third is, what proportion of wages shall be paid *pro ratâ* to the workman to enable him to subsist before any profits, if profits there be, can be realized.

It is needless to say that many methods of solving these questions have been proposed in France, as elsewhere, and it is probable that they will long continue to form the subjects of scientific discussion and of practical experiment before they can be completely answered. I may, however, briefly record some practical suggestions which have been made on the subject.

To take the third question first. It is proposed that a *minimum* rate of wages, to be paid weekly, should be fixed by vote in a general assembly of the Co-operative Society; the dividend on profits (his share of which will complete

the workman's wages) to be declared quarterly, half-yearly, or annually, as may be found convenient. It is contended that this *minimum* rate of wages need not necessarily be regulated by the market price of labour; that being simply a provisional arrangement, it may often, and without injustice be lower than the market price. The rate should be voted twice a-year, the value of labour being more variable than that of capital.

2ndly. If at the end of the quarter (or whatever term may be fixed) the undertaking has yielded no profits, or has resulted in actual loss, the workman who has received only a minimum rate of wages will have lost so much of the value of his labour, the capitalist so much of the value of his capital.

3rdly. In order to arrive at a division of profits, the amount of the capital employed should be compared with the sum of wages paid. If the capital employed amounts, for example, to 60,000 francs, and the sum of wages paid to 40,000 francs, three-fifths of the net profits realized should go to the capitalists, and two-fifths to supplement the wages of the workmen.

There are some very obvious objections to this suggestion. It provides, like every scheme of the kind which I have met with, that the workman's share of profits shall be determined by the cost of manual labour, in other words, by the wages (or "advances" they might be called) which he has received to enable him to subsist. Now it is clear that in every Co-operative Society, the rate of those advances must be determined by the assent of all its members, and as the eventual share of profits to fall to the workman will depend on the amount of money received by them in this form, there is a direct antagonism of interest between them and the capitalist in fixing the standard of the provisional remuneration which they are to receive. Hence the ancient disputes about wages would be simply revived in a new form. It is true that as soon as the workman should acquire any share in the capital of the concern, his interest as a capitalist would modify to some extent the antagonism in question; and, indeed, it appears essential to the successful organization of Co-operative Societies of production (that is, those which sell the produce of their industry) that every member should possess a share in the capital of the association. In the present condition of the bulk of the labouring population in all countries, the speedy formation of such societies on

any very extended scale cannot be expected; but if regard be had to the influence which other forms of co-operation are exercising both on the moral and material condition of the working class, such a result may not unreasonably be anticipated for the future. It is not only that the societies to which I allude enable the workmen to effect a saving in the purchase of the primary articles of consumption, in the cost of his lodging, or in the terms on which he may contract small loans, but that the plan on which they are conducted offers him at once an example of what prudence may effect, and furnishes him with an opportunity of exercising it on his own behalf by the investment of his savings. It has been a great mistake in the procedure of the working classes in France that they have preferred societies of production to building societies, loan societies, and those which may be termed societies of consumption. The latter should come first; for their tendency is to endow the workman both with the capital and the prudence without which his participation in the productive form of society is seldom satisfactory.

Another difficult question regarding the organization of Co-operative Societies has reference to their management. If they consist of capitalists who do not labour, and of workmen who own no capital, what part, if any, are the latter to take in the direction of business and in the government of the establishment? and the question is only varied when the workmen possess a relatively small portion of the capital employed.

Other questions of practical difficulty concern the claim of a retiring member of the society on the capital to which he has contributed, the employment of workmen who are not associates, and points of a legal character regarding liability. Various systems, which will be hereafter mentioned, have been tried, or are in course of trial in France, but it may be said here that they are hitherto regarded as simply probational. There is no pretension, as far as I am aware, in any quarter, to have already devised any complete system of co-operation between capital and labour; but there is a general desire to promote by scientific discussion and practical experiment the solution of a question which appears to be rapidly assuming the gravest importance in regart to the vital interests of society. Meanwhile what has been practically effected in France towards the realization of co-operative principles will come under consideration in the following and concluding section of this paper.

5. *Co-operative Societies.*

There are many Co-operative Societies actually existing in France which may be divided into three broad categories:—

1. Societies of consumption; of which the function is to buy and sell to members alone, or to members and non-members, the necessaries of life, or the raw materials of their industry.

2. Societies of credit; of which the function is to open accounts of credit with their members, and advance them loans.

3. Societies of production, of which the function is to sell, whether collectively or individually, work executed by their members.*

Of these three forms of association the first has especially flourished in England; the second in Germany; and the third in France. It is to this last that I propose chiefly to direct attention. The French societies of consumption are but copies of the great Rochdale Society and its numerous progeny; and there is nothing, I think, in the French societies of credit which is not illustrated on a larger scale in the more complete organizations of this character in Germany. But the Societies of Production took their rise in France, where they continue to be the objects of popular predilection, and a special interest attaches to them in connection with questions affecting the association of capital and labour.

The first attempt to form such societies were made in France by M. Buchez, as far back as the year 1831. They were placed under a general manager; they employed workmen who were not associates; and what constituted their special characteristic was the formation of a permanent and indivisible fund, which comprised nearly the whole capital of the society, upon which no member who retired from the association had any claim. This exaggeration of a reserve fund is thought to have acted very prejudicially on these societies which, whether from that cause, or from other defects inherent in their constitution, were nearly all ruined in the course of a few years. One of these associations, however, which all partook of a

* There are also building societies which construct houses for their members; and societies which undertake the execution of work by contract.

religious and sectional character, "La Societé de Bijoutiers en doré," founded in 1834, and which recast its statutes in 1843, still subsists at Paris, and is said to be sufficiently thriving.

About the year 1840, au experiment, which is cited by Mr. Mill in the second volume* of his "Principles of Political Economy," was made by a Paris tradesman, a house painter, M. Leclaire, to give to his workmen a share in the profits of his establishment. M. Leclaire employed about 200 workmen, whom he paid in the usual manner by fixed wages or salaries. He assigned to himself, besides interest for his capital, a fixed allowance for his labour and responsibility as manager; and at the end of the year the surplus profits were divided among the body, himself included, in the proportion of their salaries. But the number of workmen whom M. Leclaire admitted to this share of profits was only a portion (rather less than half) of the whole number employed. As all the workmen, however, received the full market rate of wages, those admitted to this privilege added so much clear gain to the ordinary earnings of their class, and the existence of the privilege acted at once as an incitement to exertion and a recompense of merit. It is interesting to know that this system, with which M. Leclaire expressed himself as highly satisfied in 1842, is still in operation in his establishment in the Rue St. Georges at Paris. The establishment was, however, reorganized on the 15th of February, 1864, and is now conducted in the following manner:—There are two proprietors, Messrs. Leclaire and Defournaux; and there are 59 "associate" and from 100 to 200 "non-associate" workmen. The benefit society ("société de secours mutuels") of the workmen, which has accumulated a considerable capital, enters with 100,000 francs as a partner into the concern, in which each of the proprietors has invested a capital of 100,000 francs. The annual profits of the establishment are thus divided:—25 per cent. to each of the two proprietors, who receive besides a salary of 6,000 francs a-piece as managers; the remaining 50 per cent. are assigned to the clerks ("employés") and workmen in the proportion of two-fifths to the benefit society, and three-fifths to be divided among the clerks and workmen who have rendered themselves worthy of this recompense. It is stated that the conduct of the workmen is exemplary;

* Book iv, chap. vii.

that the best relations subsist between them and the proprietors; and that the participation of the workmen in the profits of the establishment has exercised considerable influence both upon the rapidity and quality of the work executed.

During the revolutionary excitement of 1848 a great number of Co-operative Societies were formed, mostly upon principles radically opposed to scientific laws. The eleemosynary aid granted to these societies by the State seemed to act as a blight upon its recipients. Fifty-six societies participated in the sum of 3,000,000 francs, voted for this purpose by the Constituent Assembly, and of this number no less than forty-two societies entirely collapsed, after a brief and very precarious existence.

But it is satisfactory to record that some societies formed during this period, which had the wisdom and the courage to organize themselves upon sound principles, met with the happier destinies which they deserved. A co-operative association, called "Société des Tourneurs en Chaises," was founded in Paris in 1848. Its members, eschewing the popular errors of the day, would neither accept any assistance from the State nor admit the principle of equality of wages. The work was paid for both by the piece and by the day—the best workmen drawing their wages on the former, the inferior workmen on the latter system. The association was conducted by responsible managers, appointed by the society and removable at pleasure, but to whom during their tenure of office unlimited authority was given; and under these conditions the society has had a prosperous career. It has recently been reconstituted for a period of fifteen years, and till the end of that term no portion of the existing capital can be withdrawn.

Another society founded in 1848—the "Association des Maçons"—has met with remarkable success. It consists at present of eighty-four members, of whom two are managers, and a third assistant-manager. Of the remaining eighty-one members, two-thirds labour with the hod and trowel, and the remainder are superintendents and distributers of work, or simply holders of capital. The society employs habitually from 200 to 300 workmen, who are called "auxiliaries," but who have no share in profits. The system of admitting them to participation in profits was tried, but abandoned as impracticable, owing to the

impossibility of reconciling them to a share of losses when losses occurred. The society employs at present a much greater number than its usual complement of auxiliary workmen, as it has undertaken the contract to build a new station in Paris for the Orleans Railway, of which the cost, it is said, will be about 2,000,000 francs. The power to execute such a contract speaks well for the prosperity of the society.

The Society of "Facteurs de Pianos" has a pathetic history of its own. It was founded in 1849 by fourteen workmen, with a capital of 229 francs 50 centimes. It never received any subvention from the State; it struggled on through many difficulties; and it now possesses a capital of 180,000 francs, and does an annual business of 190,000 francs.

The Society of the "Ouvriers Lunettiers" was also founded in 1849, and did last year a business of 600,000 francs.

In 1851 a Co-operative Society was formed at Vienne (Isère), which was at first a manufactory of cloth, and has since added to its original establishment a flour-mill, a bakery, a grocery-house, a coal-depôt, and a farm. It does an annual business of above 1,000,000 francs.

There are three great Co-operative Societies at Lyons, of which the largest—"Société des Tisseurs"—comprises 1,800 members; and the "Association des Rubanniers" at St. Etienne counts 1,200 members, and possesses a capital of 1,200,000 francs.

There are a great number of these Co-operative Societies (I speak exclusively of those of "production") in the provinces; the number of them in Paris alone being thirty-nine.

There are also in France a great number of establishments in which the proprietors have voluntarily introduced a form of co-operation with a view of raising the moral and material condition of their workmen.

The iron foundry of M. Godin-Lemaire at Guise is deservedly famous. It numbers 900 workmen, who maintaining amongst themselves the most intimate social relations, are known under the appellation of Familistère de Guise. The proprietor constructed in 1859, at the cost of 800,000 francs, a large house containing 250 separate lodgings, let to his workmen at a rent of 3 per cent. on the capital expended. The value of this property is

now being divided into shares purchasable by its inmates, who will eventually become its sole proprietors. M. Godin-Lemaire is about to follow the same course with his foundry. The value of the plant is to be divided into shares of 25 francs, by means of which he aims at associating the whole body of his workmen in the industrial enterprize which he directs. The primary articles of consumption are furnished to the workmen at reduced prices; their prudence is stimulated by the hope of becoming co-proprietors of the house and foundry; and ample provision is made for their instruction and the education of their children.

The same liberal dispositions for the improvement and comfort of the workmen obtain in the factory of Messrs. Dollfus, Mieg, and Co., at Mulhouse and Dornach, the former of whom founded the Building Society of Mulhouse, known as the "Societé des Cités Ouvrières;" in the factory of M. Charles Kestner, near Giromagny; in the establishment of Messrs. Schlumberger and Co., at Guebwiller, and in that of Messrs. Bourcart and Co., in the same town; in the shoe manufactory of M. Savart at Paris; in the factory of Messrs. Steinheil, Dieterlen and Co., at Rothau; and in the establishments of the Orleans Railway Company, and that of the "Chemins de fer du Midi."

There are many other such establishments worthy of mention but too numerous to name, in which the workmen, besides receiving facilities to procure food, clothes, lodging, and education for themselves and their families on the most advantageous terms, are allowed to share in the profits of business, generally by means of rewards or prizes, representing a per-centage of profits, allotted to them at the end of the year by the proprietors. It must be remembered, however, that these rewards are voluntary gifts on the part of the employers to the employed, and that they do not involve the application of co-operative principles in any strict sense of the term; but I was unwilling to pass these establishments over without mention, because their influence has been important in promoting a friendly alliance between capital and labour, and in raising the moral standard of the large body of workmen they employ.

As regards the success which, on the whole, has attended Co-operative Societies of Production in France, it is difficult to characterize it. It has been seen that many of these societies (especially of those founded in 1848) have col-

lapsed; the existence of others is very precarious; while a few, such as the Society of Masons, are remarkably prosperous. But even those societies which have died, or which still live precariously, have not been without their value. They have served to indicate the direction of success, although they have failed in pursuing it; they have furnished examples of faults to be avoided; and they have in many cases promoted popular belief in the worth of scientific principles, by exhibiting the worthlessness of their opposites.

Putting aside the failure of systems which were radically opposed to economic laws, it may be said that the fault displayed in the organisation of these societies has been generally too much faith in the combination of skill and labour, and too little regard for the co-operation of capital.

It would appear that there is, if not an antagonism, at least a competition of interests between capital and labour when distinctly represented in a joint enterprize, which, except under moral conditions which cannot be predicated as normal, tends fatally to interfere with their harmonious co-operation. It would also appear that the combination of skill and labour cannot in the present day practise successfully manufacture without the aid of sufficient capital; and the deduction from these propositions is that the workman should aim at becoming in some measure a capitalist himself, before he seeks to become a co-operator with capitalists in industrial enterprize.

I have already observed that if the organization of that class of Co-operative Societies which enables the workman to effect savings and to learn providence had preceded in France the formation of productive societies, into which he can only enter with success as a prudent capitalist, the results as regards the latter would in all probability have been more propitious.

It remains only for me to say on this head that the subject of Co-operative Societies deeply engages public attention in France, and is about to engage that of the Legislature. A Commission appointed to examine the questions affecting them has terminated its labours; and a project of Law has been submitted to the Chamber, and will probably be discussed during the present Session. The debate on this subject will be regarded with profound interest, for it is felt that the future association of

capital and labour involves not only the solution of a question in economy, but the embodiment of a new principle in civilization.

In bringing this despatch to a conclusion, I am led to touch upon the inquiry as to whether the facts which have been under consideration suggest the probability of France becoming a dangerous rival to England in the commercial competition of the world. I venture to think not. As regards the wealth and enterprize of her capitalists, and the energy and industrial aptitude of her people, England, I apprehend, has no reason to fear a comparison with France; while as regards the command of mineral wealth, and the possession of experienced knowledge in commercial and industrial enterprize, the advantage is clearly on her side.

As regards the labour market, the state of which is of vital importance in estimatiug the conditions of industrial success, it appears to be similarly affected by the same causes in England and France. In both countries employers and employed enjoy the right of combination for the purpose of influencing the rate of wages. In both countries the exercise of this right, which is now as common in one as in the other, has confused the course and checked the prosperity of trade. In both countries the question of devising means for the harmonious co-operation of capital and labour forms a commercial and social problem of the first magnitude, and on a wise solution of it the prosperity of national industry appears principally to depend. I know, however, of no reasons which would justify the anticipation that this question will be solved more speedily or successfully in France than in England.

I have, &c.

(Signed) JULIAN FANE.

Inclosure in No. 4.

Extract from the "Moniteur Universel" of May 28, 1864.

Paris le 27 *Mai*, 1864.

Loi qui Modifie les Articles 414, 415, *et* 416 *du Code Pénal (Coalitions).*

NAPOLEON, par la grâce de Dieu et la volonté nationale, Empereur des Français,

A tous présents et à venir, salut :

Avons sanctionné et sanctionnons, promulgué et promulguons ce qui suit :

LOI.

Extrait du Procès-Verbal du Corps Législatif.

Le Corps Législatif a adopté le projet de loi dont la teneur suit :

Article 1. Les Articles 414, 415, et 416 du Code Pénal sont abrogés. Ils sont remplacés par les Articles suivants :

"Art. 414. Sera puni d'un emprisonnement de six jours à trois ans et d'une amende de 16 francs à 3,000 francs, ou de l'une de ces deux peines seulement, quiconque, à l'aide de violences, voies de fait, menaces ou manœuvres frauduleuses, aura amené ou maintenu, tenté d'amener ou de maintenir une cessation concertée de travail, dans le but de forcer la hausse ou la baisse des salaires ou de porter atteinte au libre exercice de l'industrie ou du travail.

"Art. 415. Lorsque les faits punis par l'Article précédent auront été commis par suite d'un plan concerté, les coupables pourront être mis, par l'arrêt ou le jugement, sous la surveillance de la haute police pendant deux ans au moins et cinq ans au plus.

"Art. 416. Seront punis d'un emprisonnement de six jours à trois mois et d'une amende de 16 francs à 300 francs, ou de l'une de ces deux peines seulement, tous ouvriers, patrons, et entrepreneurs d'ouvrage qui, à l'aide d'amendes, défenses, proscriptions, interdictions prononcées par suite d'un plan concerté, auront porté atteinte au libre exercice de l'industrie ou du travail."

Art. 2. Les Articles 414, 415, et 416 ci-dessus sont applicables aux propriétaires et fermiers, ainsi qu'aux moissonneurs, domestiques et ouvriers de la campagne.

Les Articles 19 et 20 du titre II de la Loi de $\frac{5 \text{ Septembre}}{6 \text{ Octob.e}}$, 1791, sont abrogés.

Délibéré en séance publique, à Paris, le 2 Mai, 1864.

Le Président,
(Signé) DUC DE MORNY.

Les Secrétaires,
(Signé) Comte Joachim Murat.
Henri Noubel.
Séverin Abbatucci.
H. Busson-Billault.

Extrait du Procès-Verbal du Sénat.

Le Sénat ne s'oppose pas à la promulgation de la Loi relative à la modification des Articles 414, 415, et 416 du Code Pénal, relatifs aux coalitions.

Délibéré et voté en séance, au Palais du Sénat, le 17 Mai, 1864.

Le Président,
(Signé) TROPLONG.

Les Secrétaires,
(Signé) Le Général Comte de Goyon.
A. Le Roy de Saint-Arnaud.

Vu et scellé du sceau du Sénat:
Le Sénateur Secrétaire,
(Signé) Baron T. de Lacrosse.

Mandons et ordonnons que les présentes, revêtues du sceau de l'Etat et insérées au "Bulletin des Lois," soient adressées aux Cours, aux tribunaux, et aux autorités administratives, pour qu'ils les inscrivent sur leurs registres, les observent, et les fassent observer, et notre Ministre de la Justice et des Cultes est chargé d'en surveiller la publication.

Fait au Palais des Tuileries, le 25 Mai, 1864.

(Signé) NAPOLEON.

Par l'Empereur:
Le Ministre d'Etat,
(Signé) E. Rouher.

Vu et scellé du Grand Sceau:
Le Garde des Sceaux, Ministre de la Justice et des Cultes,
(Signé) J. Baroche.

No. 5.

Earl Cowley to Lord Stanley.—(*Received April* 24.)

My Lord, *Paris, April* 23, 1867.

Mr. Fane, in his despatch of the 31st ultimo, had given your Lordship so much information respecting combinations among workmen in this country, and had evidently studied the subject with so much care, that I considered I should best carry out the instructions contained in your Lordship's despatch of the 3rd instant, by referring that despatch to him, and requesting him to furnish your Lordship with such further information as he might be enabled to obtain on the matters alluded to therein.

The inclosed Report, which I have received from Mr. Fane, will show your Lordship that I did well to take this course.

I have, &c.
(Signed) COWLEY.

Inclosure in No. 5.

Mr. Fane to Earl Cowley.

My Lord, *Paris, April* 20, 1867.

Your Excellency instructed me to ascertain whether there are in France any laws or enactments affecting the combinations of workmen, strikes, &c., in addition to those which formed the inclosures of my despatch to Lord Stanley of the 31st ultimo, and to report any information which I might be able to acquire as to the working of Trades Unions, if any existed in France.

As regards the first question, I have the honour to report that there is no addition to be made to the documents which accompanied my despatch above cited. The Law of the 25th May, 1864, regulates the combinations of workmen for the purpose of influencing wages by defining the limit within which they become penal. The "Exposé des Motifs" and the "Rapport" of M. Emile Ollivier, which I annexed to the copy of the Law itself, give a clear and comprehensive exposition of the measure of liberty which the Law concedes, and of the nature of the abuses against which it is designed to operate. So far as regards

the Criminal Law. As regards the Civil Law, it will be found embodied in the "Loi sur les Sociétés," which lays down the conditions to be fulfilled by every society before it can acquire a legal status. The amended project of this Law, which will probably be passed during the present session, was also annexed to my former despatch.

As it may be convenient to the Commission to possess a duplicate set of these documents, I have the honour to inclose herewith an additional copy of each,* having been compelled, however, for this purpose to delay the present Report, owing to the difficulty I have experienced in obtaining another copy of the "Exposé" and "Rapport" of the Law of the 25th May, 1864, which are almost out of print.

With respect to the second question, Trades Unions—meaning associations similar in character and operation to those which receive that denomination in England—do not at present exist in France. It is, however, generally believed that attempts will now be made to organize them. But both the Special Law regulating the combinations of workmen and the general dispositions of the Penal Code, as well as the ordinary police regulations, are adverse to such a design.

Perhaps the readiest method of indicating the operation of these Laws will be by giving samples of what action may legally be taken under their provisions, and what action would constitute a violation of them.

Suppose, then (what is now a case of ordinary occurrence), that the members of any trade in France desire by combination among themselves to raise the existing rate of their wages. Their first step is to apply to the Prefect of Police for permission to hold a meeting. Such a meeting, not being illegal, is, as a general rule, at once sanctioned, but the laws affecting public security necessitate the presence at every meeting of an agent of police to watch the proceedings on behalf of the authorities. The meeting is accordingly held under these conditions. Resolutions are passed fixing the increase in the rate of wages to be demanded, the duration of labour, the method of its remuneration (whether by the day or by the piece), and other conditions which it may be thought advisable to ask from the employers, and affirming,

* Loi sur les Coalitions: Exposé. Loi sur les Coalitions: Rapport. Projet de Loi sur les Sociétés. Annexe au Projet.

if necessary, that those present will abstain from work until these conditions are obtained. In the latter case, a committee is generally formed to collect a rate among the members of the trade, and to receive contributions from other sources, to assist those who may consent to "strike." The legality of these proceedings results clearly from the "Rapport on the Law of Coalitions."*

As regards the collection of money both from the members of the trade and other sources to assist those "on strike," the reporter, after distinctly affirming that the formation of a "strike fund" ("caisse de chômage") does not constitute a violation of the Special Law, seems to anticipate the very case which has recently arisen in England by throwing a doubt on its legality under the laws regulating commercial and other societies.† I apprehend his meaning to be, that while such "funds" may be freely formed (and the announcement of their formation in connection with recent strikes in Paris is publicly made), they would probably not receive legal recognition in a Court of Justice.

Having sketched the character of proceedings which would be legal at such a meeting as I have supposed, I will endeavour to show how they might deviate into violations of the law.

(I may state parenthetically that the introduction of any political matter into the discussions would constitute a breach of the law, and would entail the immediate dissolution of the meeting by the police agent present.)

Suppose that at such a meeting any members of a trade make affirmations which are wilfully false, that they attribute, for instance, to the employers resolutions that have never been taken by them, or that they assert, knowing it to be false, that such demands as they advocate have been conceded to the workmen in a neighbouring town, and that they have succeeded by such false representations in initiating or prolonging a strike, they become amenable to the first paragraph,‡ and are liable to imprisonment of from six days to three years, and to a fine of from 16 to 3,000 francs, or to one of those penalties only, at the discretion of the judge. They may also, under the provisions of the second Article of the Law, be placed under the surveillance

* Rapport, page 63.
† Ibid., page 68.
‡ Ibid., page 69.

of the superior police for a period varying from two to five years.

Suppose, again, that at such a meeting, certain members of a trade, having previously taken concert among themselves, propose to inflict penalties and fines on those who accept work on conditions prescribed by them. The simple proposal would not constitute an infraction of the law,* but any violation of the freedom of labour by the infliction of such fines and penalties would constitute a misdemeanour, and subject the authors of it, under the third paragraph of the law, to imprisonment of from six days to three months, and to a fine of from 16 to 300 francs, or to one only of those penalties at the discretion of the Judge.

It will be seen how the existence of this law, and the fact of a police agent being present to report any resolutions which tend even to infringe it, must militate against the organization of a society which should aim at regulating the conditions of labour by the enforcement of arbitrary rules. Surreptitious action may of course be resorted to; and there is little doubt that intimidation is secretly exercised over the members of a trade to induce them to join their fellow-workmen in a strike, or to molest them in case of refusal. All the annoyances, especially of a social character, which may be inflicted on a workman by the resolute hostility of his fellows are to him serious evils from which no law can protect him. It may, however, be doubted whether such proceedings alone can do much to effect the objects of an organized tyranny; and the restrictions on the liberty of meeting in France will operate, perhaps, more powerfully to prevent the establishment of such a tyranny than the law specially designed to safeguard the freedom of the workman.

A reference to the text of the law will show, however, how carefully it provides against all methods of coercion. It renders punishable in the first degree whosoever by means of violence (including insults),† blows, menaces, fraudulent manœuvres (including wilfully false representations),‡ shall have brought about or prolonged, or attempted to bring about or prolong, a concerted cessation of work, with a view to force up or down the rate of wages, or to

* Rapport, page 73.
† Ibid., page 66.
‡ Ibid., page 69.

violate the liberty of trade or of labour; and it renders punishable in the second degree all workmen, employers, and contractors of work, who, by means of penalties, prohibitions, proscriptions, and interdictions, pronounced in pursuance of a concerted plan, shall have violated the liberty of trade or of labour.

Any attempts, therefore, which may be made to establish an organized tyranny over labour in France will meet with very serious obstacles both in the special law which regulates the combinations of workmen, and in the general laws affecting public security.

The object at which the workmen in France immediately aim is the establishment of such a concert between members of the same trade throughout the country as shall secure uniformity in the demands made upon employers. To extend this concert to members of the same trade in foreign countries is an idea imported from across the Channel. It will be remembered that during the strike of the London shipbuilders last winter, a statement was put forward on behalf of the employers that, owing to the high rate of wages demanded by the workmen, contracts which under these conditions would not prove remunerative had necessarily been rejected, and these contracts had been transferred to the shipbuilders of other countries, to the obvious injury of British trade. The moral intended to be thus conveyed to the workmen was that they should not strike for high wages; but the conclusion which they appear to have drawn was that they must extend the system of combination to other countries so as to secure, if possible, a uniformly high rate of wages in the principal labour markets of Europe. Something has already been done to promote this scheme. Shortly after the commencement of the strike of the tailors of Paris, which is still in full progress, delegates of the trade arrived from London whose object, it is said, was to encourage the strike, and to assimilate the demands made upon French employers to those maintained by the workmen in England. There is little doubt that this example will be followed in other branches of trade, and I believe that it is intended to take advantage of the presence in Paris this year of the large bodies of foreign workmen who are expected to visit the Exhibition, in order to establish, if possible, a general agreement as to the conditions of labour in the principal countries of Europe.

I have, &c.

(Signed) JULIAN FANE.

P.S.—It may be of interest to the Commission to possess the Blue Book containing the evidence taken before the Imperial Commission appointed to inquire into the subject of co-operative societies; and I have the honour to annex a copy to this despatch.

At page 587 of the Blue Book will be found a list of the persons who gave evidence. They are the persons best qualified to give the Commission every information respecting the conditions of trade and the associations of workmen in France. It will be seen that the list includes persons of every rank.

J. F.

No. 6.

Mr. Morier to Lord Stanley.—(*Received May* 2.)

My Lord, *Darmstadt, April* 28, 1867.

I HAVE the honour to acknowledge the receipt of your Lordship's despatch of the 3rd instant, in which you instruct me to furnish, for the use of the Royal Commission appointed to inquire into the action of the trades unions, a full report upon the working of the trades unions which may exist in the Zollverein, and all the information which it is in my power to obtain relative to the laws affecting combinations of workmen, strikes, &c.

I beg leave to state in reply, that if under the term "trades union" is meant a society, the distinctive characteristic of which consists in the funds of such society being applicable indiscriminately to "benefit" purposes, and to so-called "trade" purposes, this form of association is, as far as I can learn, unknown in the Zollverein.

It could hardly be otherwise in a country in which benefit societies are under the immediate control of the State; whereas trade combinations for the purpose of influencing wages have hitherto been illegal.

In Prussia, to which my inquiries have as yet been mainly directed, the interference of the State in the matter of benefit societies for the working classes is not confined to the mere negative function of supervision, but is, on the contrary, of a very positive kind. It calls these societies into life where they do not exist, draws up their statutes, and not only compels the workmen for whose relief they

are founded to subscribe to them, but forces the employers of these workmen to double the amount contributed by the latter.

In 1860, the Journeymen Relief Unions of Prussia, to which this compulsory character is attached, numbered 2,219, with 157,664 members, and an income of 124,752 thalers. The Factory Operatives' Mutual Relief Unions numbered 719, with 170,847 members, and an income of 835,176 thalers.

Other miscellaneous relief societies, all of them equally under the control of the State, brought up the whole number to 3,644, with 427,190 members, and a yearly income of 1,361,919 thalers.

At this same date the Prussian law punished with fine and imprisonment any workman who combined with his fellows for the purpose of obtaining concessions from his employer by refusing to work.

These facts will suffice to show that the objects for the combined attainment of which the system of trades unions has been established in England, are in Prussia necessarily dissociated from each other, and it is this necessary dissociation which appears to me to constitute the radical difference between the conditions under which the problem of labour in its relation to capital presents itself in the two countries.

The strength of the English system depends, to borrow a term from the phraseology of international law, upon the "anceps usus," the two-edged purpose, to which the funds of the trades union may be applied. They are raised for the purposes of peace, but they are applicable to the purposes of war. The effort of saving, upon which the fund depends, is made in view of the direct and tangible advantages secured to the person who makes the effort, and the possible contingency of a wasteful application of these savings to trade purposes remains a something, remote and indistinct, which does not immediately affect the imagination. Thus there is built up, almost imperceptibly, a powerful machine, fulfilling some of the most useful and important functions to which corporate action can be applied, but which at a moment's notice can be changed into a formidable instrument for offensive warfare.

In Prussia, the machinery for mutual relief amongst the working classes, owing to the control exercised over it by the State, is, once for all, rendered inapplicable to any

objects but those of the "benefit" kind. Nor will the repeal of the combination laws, lately effected, in any way alter these conditions, for the State will continue, as heretofore, to impose its statutes on these societies, and, of course, never tolerate a deviation from the objects for which the funds are subscribed. Entire emancipation on the part of the working classes from these intimate relations with the State must necessarily be a long and tedious process.

Under these circumstances the question, whether unions exclusively for trade purposes exist in the Zollverein, becomes of secondary consequence, as, without the solid basis afforded by funds subscribed for "benefit" purposes, no such societies can attain to any degree of importance or power.

As regards Prussia, whatever unions may have hitherto existed for the purpose of maintaining strikes or exercising a direct pressure upon employers must have been, owing to the Combination Laws, of a secret kind. I am informed, however, on competent authority, that no such societies, none at least upon a large scale, have hitherto existed; and the history of the strikes which have occurred in Prussia during the last twenty years would seem to corroborate this assertion.

These strikes have been few in number, and when tested by the English standard appear to have been of the most insignificant kind. Ten days is the longest period for which any of them lasted, and only in one very exceptional case did the number of operatives who struck reach 1,000.

From what has been said it will, I think, appear that the points of real interest in connection with the present enquiry are, 1st, the fact that, whether for good or evil, whether to the advantage or disadvantage of the working classes, the laws prohibiting combinations for the purpose of influencing wages have proved successful, and this during a period which has witnessed an extraordinary increase in the manufacturing and industrial activity of Germany; and, 2ndly, that the current of public opinion has, nevertheless, for the last ten years set strongly against these laws until in one State after another their repeal has been effected.

It is in Prussia that the agitation for this repeal has been the strongest and the resistance to it the most obstinate. This agitation, however, was not confined to the

repeal of the Combination Laws, but embraced the entire reform of the legislation affecting labour and its relations to the capital which employs it.

I have attempted in the inclosed sketch, which forms part of my answer to question 4 of the Memorandum transmitted in your Lordship's despatch, to give some account of the history of the Combination Laws in Prussia in connection with the general system upon which the Prussian Industrial Code has hitherto been based. It contains the results of my investigations into this matter as far as I have as yet been able to conduct them, and may, I trust, prove not altogether valueless to the Royal Commissioners. I have, &c.

(Signed) R. B. D. MORIER.

Inclosure in No. 6.

Sketch of the Laws in Prussia which affect Labour, with especial reference to those relating to Strikes and Combinations amongst Workmen.

The laws affecting labour have not ceased during the greater part of this century to occupy the attention both of legislators and of the public in Prussia, and the Prussian statute-book contains an interesting record of the various phases of opinion which have alternately prevailed on this important question.

These phases may be summed up under three principal heads, corresponding with the following periods:—

1. The period of perfect industrial freedom, inaugurated in the first decade of the present century by the Reformers Stein and Hardenberg as part of their scheme for the regeneration of the Prussian monarchy after the collapse of the battle of Jena.

2. The period of reaction to this policy of freedom to be subdivided into:

   a. The more specifically bureaucratic reaction embodied in the legislation of 1845.

   b. This reaction as shared by the industrial classes themselves and embodied in the legislation of 1849.

3. The present period, which may be described as that of the simultaneous emancipation of the Executive, the

Legislature, the industrial classes, and the general public from the reactionary influences of the preceding period. Two important Acts passed in the last session of the Prussian Parliament may be looked upon as the first fruits of this period: 1st. An Act repealing the provisions of the Law of 1845 against combinations amongst employers or their workmen;* 2ndly. A law investing co-operative associations with corporate rights.

The legislation of the first of these periods was undoubtedly far in advance of its age. Indeed, when we contemplate the chaos of economical fallacies in which up to a very recent date most European codes were enveloped, it is difficult to realize the fact that the simple language in which the Prussian statutes from 1806 to 1811 take for granted the cardinal doctrines of political economy proceeds from the law-giver, and not from the student.

The principle which should underlie all laws affecting labour is laid down in an edict of 1808 as "that of the utmost possible freedom in the production as well as in the distribution of wealth." In accordance with this principle, the Law of 1811 removes all industrial disabilities, thereby virtually breaking up the whole system of guilds, then flourishing in the utmost luxuriance, and reduces the machinery of production to the elementary form of free contract between employer and employed.

Every Prussian citizen became free to exercise what trade or profession he pleased, when and where he pleased; to employ at his option unskilled workmen or indentured apprentices; to fix by common consent with such apprentices the terms of their indentures, the period of their apprenticeship, the premium to be paid, or the wages to be received, &c.

These equal rights, however, had a corresponding obligation attached to them in the shape of the licensing

* The Law of 1845 (see page 68), though visiting employers with the same penalties for combining to lower wages as it did workmen for combining to raise them, in its practical effect only touched the latter. The difficulty of obtaining the evidence necessary to prove the "previous concert," which constituted the offence, effectually screened the employers; and upon the occasion of the inquiry instituted by the Government into into this question (see *infra*), it was given in evidence that during the whole period that the law was in force, only two prosecutions had been instituted against employers, and that not a single conviction had been recorded. For all intents and purposes, therefore, the law was one directed against workmen, and workmen only.

system ("Gewerb Steuer," lit. trade tax), then for the first time introduced, and which, although at the time excused by the pecuniary necessities of the State, has remained in vigour ever since. The license of 1811, however, was a purely fiscal measure. It had neither the character of a monopoly, nor that of administrative control. Every person who desired to exercise a trade had to pay for a license, which could not be refused to him, and in virtue of which he could exercise his trade in every portion of the Monarchy under the protection of the laws.

The Industrial Code of 1845, is framed in a spirit the very reverse of the Enactment of 1811. Freedom is the breath of the latter; control, restriction, protection, are the principles of the former. The fiscal side of the licensing system is retained, but for many trades the system assumes in addition the form of a concession, the granting and withdrawing of which lies in the discretion of the authorities, The guilds which by the former legislation had been reduced to shadows, once more find favour, and the attempt is made to galvanize them back into life. New guilds are created, whose statutes are framed in accordance with rules laid down by the Ministry of Commerce. The statutes of the old ones have to be reformed in conformity with the same rules. The principle of examination is introduced. No one can become member of a guild, and in many trades no master can indenture apprentices without having previously passed an examination. The examinations are to a great extent placed under the control and management of the guilds.

Lastly, the Industrial Code of 1845, contains the provisions against the liberty of combinations as well amongst masters as amongst workmen to which attention has already been called, and the repeal of which by the law passed this year has inaugurated the new era of emancipation.

These provisions are as follows:—

§ 181. "Persons exercising a trade, or engaged in manufacture ('gewerbtreibende,'*) who endeavour to move their journeymen or workmen or the authorities, to certain acts or concessions, by previously concerting to suspend the exercise of such trade, or to dismiss or refuse work to such journeymen or workmen as may not submit to their

* The term "gewerbtreibende" includes the employers of factory labour as well as of handicraft labour, the millowner as well as master-tailor, shoemaker, &c.

demands; likewise such persons as shall urge others to a combination of this kind, shall be punished by imprisonment for a term not exceeding twelve months."

§ 182. "Journeymen or operatives who endeavour to move their employers or the authorities to certain acts or concessions by previously concerting for the purpose of refusing to work, or of preventing work from being done for one or more employers; likewise such persons as shall urge others to a combination of this kind shall be punished by imprisonment for a term not exceeding twelve months.

"The provisions of this paragraph likewise apply to workmen engaged in mines, or on roads, railways, fortifications, and other public works."

§ 183. "Operatives, journeymen, or apprentices forming themselves into associations without the permission of the police are to be punished; the founders and presidents of such associations by a fine of 50 thalers (7*l.* 10*s.*), or imprisonment for a term not exceeding four weeks; the remaining associates by a fine of 20 thalers (3*l.*), or imprisonment for a term not exceeding fourteen days."

§ 184. "Journeymen and operatives who wilfully, and without a lawful cause for so doing, abandon their work, or who withdraw from the business on which they are engaged, or who are guilty of gross disobedience, or of obstinate insubordination, shall be punished by a fine of 20 thalers, or imprisonment for a term not exceeding fourteen days."*

The law of the 9th of April, 1849, goes a great deal further in the direction initiated by the Industrial Code of 1845.

Compulsory examination becomes the rule,† whether the candidate for admission into a trade intends or not to become member of a guild, or to indenture apprentices, and penalties in the shape of fine and imprisonment are attached to the exercise of the vast majority of trades without a certificate of examination. An apprenticeship of three years must have been served before the journeyman's

* Paragraphs 16, 17, and 18 of the Law of 1860 are the reproduction, *mutatis mutandis*, of Paragraphs 181, 182, and 184 above given, as applied to mining industry. Paragraph 3 of the Law of April 24, 1854, applies the provisions of Section 182 to agricultural labourers.

† Paragraphs 23 and 24 of the Law of 1849 give a List of the trades in which examination is compulsory. They are seventy-nine in number, and include all the principal branches of industry.

examination can be passed, and a journeyman must have worked three years as such before he can pass his examination as master; he must, moreover, have completed his twenty-fourth year. A master can only employ journeymen and apprentices of his own trade; journeymen can only seek employment with masters of their own trade. Foreigners can only exceptionally be admitted to the exercise of a trade, &c.

The following are the paragraphs of this law to which more special reference will have to be made.

§ 47. "Master workmen can only employ for the technical work of their trade journeymen of their own trade, unless an exception be allowed by the Council of Industry (Gewerberath)." *

§ 48. "Journeymen, except in the cases provided for by sections 31 and 76, can only take work with masters of their own trade."

§ 31. "Owners of factories can only employ journeymen in so far as they require them for the direct production of the articles they manufacture, and for the production and keeping in repair of their tools."

§ 32. "Owners of factories who exercise a trade belonging to one of the categories enumerated in sections 23 and 26, without having passed the examination required by section 30, cannot employ journeymen of that trade outside their factory."

"The idea underlying the legislation of 1845," says one of its apologists (and we have seen that the legislation of 1849 is only a complement of that of 1845) "is that of protecting labour against capital."

With this object in view it had recourse to the singular method of hampering the free action of that portion of the working class whose prosperity was for the time being the most directly threatened, not indeed by capital as such, but by the new channels of investments into which capital had begun to flow. The phenomena which excited the fears of the legislators in 1845 and 1849, and made them seek remedies in restrictive enactments had their origin in the revolution caused by the rapidly increasing efficiency of factory labour, or production *en masse* as compared with handicraft labour or production in detail, and the distress which began in consequence to make itself felt amongst

* See *infra*, page 72.

the classes which furnished the latter form of labour was the evil which was sought to be remedied.

To act logically, therefore, in this illogical crusade against capital (by which, in the phraseology of the period, is always meant the large mill-owner), it would have been necessary to attempt at least to restrain the competitive power of factory over handicraft labour by loading the former with disabilities, instead of which the attempt was made to restrict competition amongst the handicraftsmen themselves, leaving the mill-owner more completely than before master of the field. The Industrial Code of 1845, and the Law of 1849 make up together a very complete system of restriction in regard to all trades exercised by handicraftsmen as distinct from factory operatives, but protection and not restriction was the object sought to be obtained and of this protection as against the real competitor, viz., the mill-owner there is absolutely no vestige; for the paragraphs which appear to place the latter under a *quasi* restraint in so far as he may not employ journeymen outside his factory and the like, are really exceptions made in his favour. The public cannot get its work done otherwise than through a master workman, the mill-owner by virtue of these paragraphs can within the walls of his mill employ all labour, skilled and unskilled, journeyman or operative, indiscriminately. Nor are any rules laid down to distinguish between manufacture and trade ("fabrik and gewerb"). Every kind of production can be carried on either in the mass by mill hands or in detail by journeymen and apprentices. The master workman who has served out his apprenticeship, worked his three years as journeyman, passed all his examinations and paid all his fees, finds restrictions on all sides, is confined in the choice of his workmen, and tied down to the statutes of his guild. The capitalist who has wherewithal to set up a mill is free in all his movements. It would, therefore, be difficult to find another instance of legislation which, having otherwise nothing to recommend it, had so totally failed in even approaching the mistaken object it had in view.

It was above observed with reference to the Acts of 1845 and 1849, that the former had a bureaucratic, the latter a more popular colouring.

This difference may be traced in the instruments to which is respectively confided the care of controlling and regulating the industrial relations established by the two Acts.

In the first case, that of the code of 1845, it is the State which, by means of its bureaucratic hierarchy, superintends and controls the working of the system.

In the latter case, that of the law of 1849, these functions are confided to local bodies, under the name of Councils of Industry, constructed expressly for the purpose by the first twenty-two paragraphs of the law in question.

These Councils are composed in equal parts of what, in the absence of a better phraseology, must be termed the representatives of factory industry, handicraft industry, and distributive industry (merchants and retail dealers). Each of these industries forms a separate subdivision of the Council. In the two former, mill-owners, and mill-hands, masters, and artizans, are equally represented, excepting that an unequal number being required for the purpose of creating a casting vote, the mill-owners in the one case, and the masters in the other, elect one more representative than the mill-hands and the artizans. The subdivisions each elect a President and Vice-Presidents, and the three together elect a common President. The subdivision is not to consist of less than five members. Each subdivision is independent as regards matters connected with the industry it represents; and only when matters of common interest to all are transacted do the three subdivisions hold plenary sittings. Besides the President, there is a Commissary named by the Government, who is the organ of communication between the Council and the Executive. The qualification for a vote consists, as regards the two first subdivisions, in belonging, *bonâ fide* as employers or employed, to the manufacturing and handicraft classes. As regards the third subdivision, the condition is the carrying on of an independent business as merchant or retail dealer. In both cases a six months' residence in the district represented by the Council, and the having reached the age of twenty-four, are obligatory. The qualification for a Member of the Council is the same as that for a voter, except that the candidate must be not less than thirty and have exercised his vocation for at least five years.

The functions allotted to these Councils by the law of 1849 are partly judicial, partly administrative, and partly also, as regards the framing of local statutes, legislative. In the exercise of all these functions, however, they appear to have been very much under the control of the bureaucratic hierarchy, into whose domain they had been intruded;

and whether from this or from some other cause, the institution does not appear to have flourished or fulfilled the expectations of its founders. At least, the evidence given before the Commission named to inquire into the working of the laws affecting labour in Prussia, is by no means favourable to them.

Before proceeding to an account of the third period, it may be well to note a few of the phenomena which immediately preceded it.

The revolution of 1848 was in an especial manner characterized in Germany by the inter-shock of opposite currents of opinion. As on the political field the ideas of individual liberty and self-government came in conflict with the idea of the strengthened central executive necessary for the purposes of unity, so in the economical field the ideas of industrial freedom, free trade, free associations, &c., came in conflict with the restrictive ideas of the organization of labour, protection to national industry, and the like; and the first result of the participation of the working classes in political life consequent upon the events of 1848, was undoubtedly, as has been instanced in the law of 1849, in a direction adverse to the true principles of economy.

Fortunately for Prussia and for Germany there were found amongst the leaders of the Liberal party, and that amongst those who possessed the greatest influence over the working classes, a body of sound economists, who, as the advancing tide of reaction forced them more and more from the field of politics proper, turned their attention to the social and economical questions propounded, but left unsolved by the revolution of 1848.

To the movement inaugurated by this body of men may be directly traced the great reforms completed, or in the course of completion in Germany, in connexion with the questions aforesaid. The free trade movement which found its expression in the French Treaty; the co-operative movement which has covered Germany with a net work of credit banks, enabling the artizan to borrow money on the same terms as the millionaire; the agitation which has led to the emancipation of the working classes from the penalties attached to combination, are all of them vibrations from the central movement which, emanating from MM. Schultze-Delitzsch, Michaelis, Faucher, Prince-Smith, and others, proceeded systematically with the work

of popular economical education, and whilst unshackling the productive forces of the country from the gyves and fetters of bureaucratic restriction simultaneously emancipated the producers from the fallacies of socialism.

A central politico-economical Congress, which had its affiliated societies all over the then Confederation, met once a-year alternately in the various States of Germany, took cognizance of all practical questions of economical reform, and caused these questions to be agitated in the several Legislatures of the Confederation in a common spirit and in a like direction. Side by side with this body were the general assemblies of the co-operative societies, and the workman's education societies (Arbeiter Bildungs Vereine), each with their net-work of affiliated branches, and each worked by the same body of men as those who presided over the more purely scientific politico-economical Congress.

It will be seen from the above sketch that the process of reforming the laws affecting labour proceeded in Germany from the general to the particular and not from the particular to the general; that it was not a pressure exercised upon the Legislature from without, by operative riots, secret associations, and the like, forcing on a piecemeal legislation, but a systematic movement towards economical Reform in accordance with general principles, emanating from the educated minority and gradually extending over the vast human area, whose common assent to any general proposition constitutes public opinion.

It is necessary, in an inquiry into the state of the labour question in Germany, to note this fact in order to seek for the solutions of existing problems, and the forecasts of the future there where they can alone be found, in the conscious teaching of the few rather than in the unconscious stirrings of the many, in the lecture room rather than in the workshop.

This renders the task of recording the history of the reform of the combination laws in Prussia a comparatively easy one, for it is the history of a programme built up *à priori*, and fighting its way against opposition of various kinds within and without the walls of Parliament, until it begins to embody itself into a system of legislation.

A return to the principle of perfect freedom in the relations between employer and employed, freedom for capital, freedom for labour, and, on the part of the working classes, the application of this freedom to the purposes of

co-operative association, upon the principle of *self help*, as opposed to the principle of *State help*, such described in a few words was the programme with which the economist reformers appealed to the country.

"Man," says M. Schultze-Delitzsch, "comes into the world vexed with certain wants, but endowed with the faculties required to satisfy those wants. All he has a right to demand is a free use of those faculties. Individual liberty, liberty to associate and combine with his fellows. The economical function of the State is to guarantee this liberty."

The hostile forces against which this programme had to contend were:—

1. The opposition of the bureaucratic or governmental elements of the Conservative party, which dreaded every departure from the principle of State control, as fraught with danger to society.

2. That of the feudal elements of the same party, whose endeavours on the field of industry were directed towards a return, *mutatis mutandis*, to the mediæval forms of corporation.

3. That of the Socialists, whose ideas of the organisation of labour implied a very direct influence on the part of the State.

As regards the first of these, the opposition originally made by the Government to the programme of the Economists (always of a passive rather than of an active kind) yielded under the enlightened influence of Count Itzenplitz, the present Minister of Commerce, and his able coadjutor, M. Delbrück, to a correct appreciation of the sound principles upon which the programme was based; and the later efforts of M. Schultze-Delitzsch and his supporters met with a cordial and ungrudging support on the part of the Government.

As regards the opposition of the feudal party and of the Socialists, it should be noted that upon different grounds from those of the Economists they made themselves the champions of the liberty of combination, and that it was this consent of opposite parties in reference to this portion of the programme, which rendered it possible for legislative action to be taken upon it.

A just conception of the law lately passed in reference to strikes and combinations, and of the relation in which the principal parties in Prussia stand to it, will best be

obtained by the following sketch of the phases, parliamentary and other, through which it previously passed.

In 1862 and 1863 MM. Faucher and Michaelis brought in Bills into the Prussian House of Representatives for an entire repeal of the Laws of 1845 and 1849, and the substitution in lieu thereof of a new Industrial Code. The Government maintained a negative attitude *vis-à-vis* of these attempts and though the reformers had the House entirely with them no result was obtained.

In 1865, MM. Schultze-Delitzsch and Faucher introduced a short Bill repealing sections 181 and 182 of the Law of 1845, and the corresponding paragraphs in the Laws of 1860 and 1854 (see pp. 68, 69; and note, p. 69). These paragraphs (181 and 182), as will be seen by reference to them made it penal both for employers and employed to concert for the purpose of obtaining concessions the one from the other, by locks out or strikes. Section 183 made it penal for workmen to join associations except with the permission of the police. Section 184 made it penal for workmen to withdraw from their work without lawful cause, *i.e.*, made a breach of contract on the part of the workmen a criminal offence.

The reasons alleged by the promoters of the Bill for limiting it to the two sections 181 and 182, were that on this narrow ground alone could they reckon upon the support of the conservative party and through them of the Government and the Upper House. To introduce section 184 would render necessary the proposal to repeal the corresponding paragraph with reference to agricultural labour, and there was no chance of such a measure obtaining the support of the landed interest. The object should be to make a breach into the existing system of restrictive laws. When this breach were, with the assistance of the conservative party, once made, it would not be difficult later on to storm the citadel. They refused to include section 183 amongst those to be repealed on the ground that it was already repealed by section 30 of the Constitution, establishing perfect liberty of association, and that to pass a specific Act of repeal in this case would be to establish a precedent prejudicial to the general efficacy of the constitutional chart.

This Bill was in accordance with parliamentary usage in Prussia, referred to a committee on whose report the House proceeded to debate the question.

The Report of the Committee gives a sketch of the

parliamentary history of the question up to that time. In its earlier stages the reform of the laws affecting labour had been the monopoly of the economists and of the liberal party; lately, however, the feudal party had taken the matter in hand and begun an agitation amongst the working men in connexion with the objects of the Bill. It was true that the ulterior objects of the party as evidenced by the programme they had put forward in the petition of the Prussian Popular Union ("Preussische Volks Verein") differed radically from those of the economists, but considering the influence which that party could exercise on the Government and its omnipotence in the Upper House, it seemed a wiser course for the House of Representatives for the present to limit their efforts at industrial reform to the points on which the conservative party would go with them. A majority of the Committee were nevertheless desirous that at least sections 183 and 184 should be included in the measure of repeal. In regard to the question as to whether in the event of a repeal of sections 181 and 182, special provisions would be required to guard against a misuse of the right of combination the Report answered in the negative, being of opinion that the Criminal Code already provided ample penalties for any unlawful acts which workmen might be guilty of in connection with strikes and combinations.

The debate upon this Report closed with the adoption, by an overwhelming majority, of the Bill as originally brought in by MM. Schultze-Delitzsch and Faucher. Its two principal episodes (irrespectively of the interest attaching to the speeches made by the economists, their friends, and their enemies, and in which the hostile programmes were developed at length and amply illustrated) were, the declaration made by Count Itzenplitz in the name of the Government, and the amendment proposed by M. Wagener in the name of the Feudal party.

The declaration of the Minister of Commerce was to the effect that—

The proposed measure had occupied the serious attention of the Government, who had come to the conclusion that an alteration of the law in the sense of the Bill was desirable; that this, however, involved interests of such great importance, and considerations of so wide a scope, that, in the opinion of the Government, the materials as yet collected were not sufficient, and that they had, in

consequence, determined to institute on their own account a searching inquiry, and moreover, to appoint a Commission to be composed of members of both Houses of Parliament, and of employers of labour, as also of workmen; which Commission should inquire into the whole subject of the laws affecting labour, and report whether, besides the negative measure of repeal now contemplated, some positive means of improving the condition of the working classes—such, for instance, as the encouragement of the principle of association—could not be hit upon by the Legislature. The associations to which he referred, Count Itzenplitz particularly added, were the modern (*i. e.*, the Schultze-Delitzsch) co-operative associations, credit banks, and productive associations, &c.

M. Wagener's amendment was to the effect that the House should reject the Bill, but at the same time petition the Government to submit to the two Houses of Parliament with the least possible delay a measure which should not only remove all existing restrictions upon the liberty of association and combination amongst workmen, but also call into life organizations which should secure to the working class, as such, the position due to it within the State, and enable it from a position of independence to look after and defend its own interests.

In the course of the speech with which M. Wagener defended his amendment, he made admissions in regard to the petition of the Prussian Popular Union referred to in the Report of the Committee, which left no doubt that that petition was to be regarded as the programme of his party, or at least of that portion of the Feudal party more especially represented by himself.

As this document contains, blended into one, the fallacies both of the socialist and the feudal schools, and affords, moreover, a fair specimen of the temper in which these two parties opposed the programme of the economists, a short analysis of it may not be deemed superfluous.

It should be noted that the Prussian Popular Union is a body organized under the auspices of the Feudal party, and composed of working men.

The petition sets forth that the State and the working man find themselves facing a common enemy: the overpowering force of capital: a force which seeks to destroy everything above and below it—that in regard to the working man its efforts are directed towards crushing out

all independent labour and reducing the entire class of producers to the one category of factory "hands"—that, if allowed undisturbed to work out its purpose, capital will destroy all social organization, pulverize society into individuals, and reduce it to a cloud of dust atoms which the wind of competition will drive and distribute over the face of the earth; that the means it uses for its purpose it terms Freedom. Freedom from interference on the part of the State, free competition, the right of free settlement, freedom of trade and industry: that this kind of freedom has been well described by the Socialist, Lassalle, as the freedom to choose at what trade to starve, and the right of settling on what spot to die; that the staying of this process and the restoring of organic forms to society cannot be left to chance; that the State, and the State only, is the instrument by which this can be effected; that the Code of 1845 had contributed something towards warding off complete ruin from the working classes, but that much more required to be done; that, fortunately, there was now no longer a doubt, even from the scientific point of view, as to the mode in which the State could interfere; that this new function of the State consisted in determining the ratio in which profits should be divided between capital and labour.

The petition then sets forth by what practical means the State can fix a minimum standard of wages; that the first step to be taken must be to emancipate the working classes from the laws which limit their right of combination; that this liberty of combining must, however, not be used in wasteful strikes as in England, but must be applied in the true German spirit of association to the creation of vast organizations; that when these organizations have, by the aid of the State, been once called into life, they must place themselves into direct relation with the Government by means of factory inspectors communicating with a Central Council of Industry; that by means of this machinery the executive would be placed in possession of the knowledge required for it to apportion profits between the capitalist and the workman; that should this machinery, however, not be found sufficient for the purpose in view, then the State could, by means of its credit, establish model national workshops which would afford the data required and act as regulators to all other industrial establishments; that only by such an alliance

between the State and the operative class was there a prospect afforded of successfully combating the pernicious theories that capital was power and labour a commodity.

The petition further sets forth that the petitioners repudiate the co-operative associations on the principle of self-help, as advocated by M. Schultze Delitsch; that the fallacy of supposing that the working classes could help themselves, or that savings could be effected out of the wages fund, had been exposed by statistics (which the petition gives at some length) no less than by the ascertained law of wages according to which these necessarily gravitate towards a point somewhat below that at which a workman can live; that the associations, therefore, based upon the principle of free cohesion between atoms having no necessary connexion with each other, must be, unhesitatingly, condemned; that what was wanted was, not a free association of heterogeneous parts, but an organic hierarchy composed of the associations of the workmen in their respective trades; of these in larger groups, including many trades, and, lastly, of these larger groups in one vast privileged corporation which, with the State at its back, could, once for all, withdraw labour from the market of commodities and impose itself as the equal if not the stronger partner of capital to which it could thenceforth dictate its terms.

Lastly, the petition sets forth that whilst calling upon the State to give them liberty of combination, the petitioners utterly repudiate those other liberties, the removal of hindrances in the way of free settlement, the free exercise of trades, &c., which the economist agitation associates with the liberty of combining; that, on the contrary, they look on these quasi liberties as having been, in so far as they already exist, immediately productive of those fluctuations in wages and prices, and stimulative of that free competition, which had in very truth succeeded in changing labourers into marketable commodities.

The speech of M. Wagener, though a little less outspoken, was cast in the same mould as this petition, and the organizations which his amendment proposes that the Government should call into life, are those here adverted to.

The Bill as passed by the House of Representatives was sent up to the Upper House, and there referred to a

Committee which agreed unanimously that it should be thrown out :—

1st. On the ground that the Government having expressed its intention of appointing a Commission to inquire into the question the Report of this Commission should be awaited.

2nd. Because the Committee were of opinion that the agitation which had led to a demand for a repeal of the paragraphs in question was a wholly artificial one, and that there was no real need to alter the laws restricting combinations.

The Report observes that industry was never in a more flourishing condition, that the demand for labour was a constantly increasing one, and that wages were consequently rapidly rising. That this demand for operative labour had already made itself felt in the country, and that agricultural wages had consequently in many places risen in a manner very disagreeable to the landowners. There were, of course, exceptional cases, but these were not of a nature to be remedied by the right of combination, and the sufferers, therefore, would not be benefitted by the proposed repeal.

The Report does not view with favour the proposals emanating from M. Wagener, though treating them with a gentle hand. It distinctly repudiates the idea of national workshops to be supported by State means, and points out the dangerous results that would flow from such attempts.

On the other hand, it recognizes the utility of the co-operative associations for loans, shores, &c., but strongly urges the Government to endeavour to obtain a direct hold upon them.

It recommends in strong terms the enforcement by the Executive of the laws compelling manufacturers to contribute to the sick and other funds of their operatives, and wishes to see the Executive taking the initiative in all measures tending to establish a more complete state of solidarity between the employers and the employed.

It is also of opinion that a point touched upon in a petition addressed to the House should be considered by the Government, viz., the prolongation of the legal term during which contracts between workmen and their masters (in the absence of special stipulations) should run.

This Report fairly represents the common sense conservative view of the question, as opposed to the specific

views of the feudal fraction of the party represented in the Lower House.

The recommendation of the Committee to throw out the Bill was unanimously agreed to by the House, but the special recommendations of the Report were negatived.

The Commission announced by the Government met in the course of the autumn (1865), under the presidency of Count Itzenplitz, the Minister of Commerce. It consisted of thirty-four members, of whom twenty belonged to the class of "employed," either as master-workmen or journeymen or factory workmen. The remaining ten members included two members of the Upper House, two of the House of Representatives (of whom M. Wagener was one), M. Borsig, the proprietor of the great locomotive factory at Berlin, one of the largest industrial establishments in the world, and various other representatives of the "employer" class.

The system upon which the Commission worked did not consist in taking evidence, and reporting upon it, but in discussing, somewhat after the fashion of a debating club, a number of propositions, and then putting these propositions to the vote.

The idea appears to have been to place on the Commission itself the persons whose evidence was desired, and to elicit this evidence by means of discussion. The result is, that facts and arguments are all mixed up in a manner very unsatisfactory to the outside student: nevertheless, the proceedings of the Commission have considerable value as throwing light upon the opinions prevailing in regard to the labour question amongst employers and employed in Prussia, and some record of the principal votes at least seems indispensable to a Report like the present.

The questions or propositions were twelve in number, of which nine had reference to the subject of strikes and the combination laws. It is to these only that reference will be made. The remaining three had reference to co-operative societies, and the means of ameliorating the dwelling-houses of the working classes:—

"Question 1. Is the repeal of sections 181, 182 of the Code of 1845, restricting the liberty of combinations, necessary or useful?"

Answered affirmatively by a large majority, but with the proviso that this repeal should not be unconditional, but modified by safeguards, to be later determined.

"Question 2. In the event of the repeal of sections 181, 182, should corresponding provisions of the law touching agricultural labour be repealed?"*

Answered affirmatively by a large majority.

"Question 3. In the event of repeal, would it be necessary to protect, by special enactment, such workmen as in any given case would refuse to take part in a strike, and if so, what are the acts to which penalties should be attached?"

After causing a lively debate, this question is left unanswered, 17 affirmative votes being recorded as against 17 negative votes. The sense of the Commission seems rather in favour of attaching penalties to the misuse of the right of combination, but no agreement can be come to as to the precise acts which should be considered criminal.

"Question 4. In the event of repeal would it be desirable to create Courts of Arbitration which should arbitrate upon, or settle *à l'aimable*, disputes arising between masters and men?"

The Commission pronounces, with a large majority, against compulsory recourse to arbitration, but in favour of the creation of Mixed Commissions, to which disputes might be referred at the option of the parties. In the course of the debate the President admitted that the Courts† which had been established in virtue of the Law of 1849 had entirely failed. M. Müller, proprietor of a large printing establishment, deposed, that a Court of Referees created on their own account by the printers of Berlin, and not connected like the Councils of Industry with the State, had been perfectly successful both as regards the settlement of disputes between masters, and also between these and their workmen. M. Wagener explained his views respecting a separate jurisdiction for the working caste.

"Question 5. Is the remaining in force of sections 47 and 48, 31 and 32 of the Law of February, 1849 (see p. 13), which restrict employers in the selection of their workmen compatible with the repeal of sections 181, 182?"

M. Hasselbach, an important member of the Commission, Burgomaster of Magdeburg, and Member of the Upper House, who has from the first ranged himself on the Conservative side, and deprecated the repeal of the

* See p. 69, note.

† See page 72.

laws restricting combinations, argues, that if sections 181, 182 are repealed, these paragraphs of the Law of 1849, restricting the employers in the selection of his workmen, must also be repealed. He shows at the same time that by repealing these apparently unimportant paragraphs the entire system on which the Legislation of 1845 and 1849 is built up, will be overturned, that system being based upon the principle that certain kinds of work should be done by certain kinds of persons, and by none others, the State granting to these persons a monopoly in return for the guarantee of fitness secured by the compulsory examinations required by the State. The repeal of these paragraphs would therefore entail the repeal of the examination laws, and the whole system would be doomed.

The Commission unanimously agree that in the event of the repeal of sections 181 and 182, the paragraphs of the Law of 1849 above given must likewise be repealed.

"Question 6. Can the regulations with respect to obligatory examinations, and the conditions required prior to such examinations, contained in Parts II and III of the Law of 1849, be maintained after the repeal of the paragraphs enumerated in Question 5?"

This question gives rise to long and interesting debates, from which it appears clearly that the emancipation of industry from the shackles imposed upon it by the system of compulsory examination and all that it entails, is that which most preoccupies the attention of the various classes concerned. Among the working men on the Commission several who had been for many years practically connected with the system as examiners speak strongly against it, as not fulfilling the purpose for which it was intended. M. Hasselbach speaks strongly in favour of the working of the system, but again repeats his opinion that if the combination laws are repealed the whole system of examination must likewise be repealed. If the workmen can combine to obtain a maximum of wages the employer must be free to obtain workmen where he can find them; there is no middle road between the legislation of 1845, 1849, and that which a repeal of the combination laws will inaugurate. If the principle of restriction be once interfered with, all restrictions must be swept away.

The question is finally disposed of by a majority of 25

to 9 against compulsory examination and by one of 23 to 11 in favour of optional examination.

"Question 7. Would the proposed repeal render necessary the removal of hindrances limiting the right of free settlement; and does the tax levied by communes on persons, not being members of such communes, who come and settle therein, place serious obstacles in the way of the free movement of the working classes?"

In bringing forward this question for discussion, the President gave a sketch of the law of settlement in Prussia. The principle that every Prussian citizen has a right to settle where he chooses is laid down expressly in the Law of December, 31, 1842, the only exceptions to the free exercise of this right having reference to persons who have undergone criminal sentences, and who may in consequence be restricted in the choice of their domicile by the police, and to paupers, who, if they cannot support themselves, may, within a year of their change of residence, be sent back to their original commune.

An important practical limitation to this right was, however, introduced by the Laws of 1853, 1856, and 1860, which sanctioned the levying of a communal tax in the shape of an entrance fee ("einzugsgeld") on all persons not natives of a borough who come to settle in it. This tax was limited in boroughs with 2,500 inhabitants and less to 3 thalers (9*s.*), in boroughs with a population between 2,500 and 10,000 to 6 thalers (18*s.*), in boroughs with a population between 10,000 and 50,000 to 15 thalers (2*l.* 5*s.*), and in Berlin to 20 thalers (3*l.*). It was urged that this tax acted very injuriously in limiting the free movements of the working population, and consequently the flow of labour in the directions in which it was wanted, and that the communes, besides using the tax as a source of revenue, had largely had recourse to it for the purpose of preventing the immigration of strangers.

The result of the debate was a unanimous vote in favour of a removal of all hindrances in the way of the free circulation of labour.

"Question 8. Does the proposed repeal necessitate an alteration in paragraph 139* of the Industrial Code of

* Section 139 is as follows:—"Employers and journeymen and the workmen employed by them, can release themselves from their engagements towards each other by giving a fortnight's notice, except in cases in which express stipulations as to time have been agreed upon."

1845, and should the alteration be of a nature to prolong the period for which a notice to dissolve an existing engagement has to run?"

It was urged by those who desired the prolongation that long engagements would act in the way of giving stability to the relations between employers and employed, and diminish the danger of strikes by substituting the penalties attached to a breach of contract for those now attaching to combinations. All the members of the Commission who were practically acquainted with the subject opposed themselves, however, to the prolongation suggested, and the proposal was negatived by a large majority.

"Question 9. Can section 184 of the Industrial Code of 1848, inflicting penalties for breach of contract and insubordination on the part of the workman, be maintained if sections 181 and 182 are repealed?"

The majority of the Commission expressed themselves in favour of repealing the penalties attached to disobedience and insubordination, but retaining those attached to a breach of contract, under the proviso, however, that a law were passed inflicting like penalties upon a breach of contract on the part of employers.

Of the materials collected by the Government, independently of the Commission, the most important are the statistics which have reference to the application of section 182 of the Law of 1845, and from which some idea can be formed of the extent to which strikes have prevailed in Prussia during the last twenty years. From these statistics it appears that from the year 1845 to the year 1865 the law in question was enforced throughout the Prussian monarchy twenty-nine times, and that on many other occasions (the number of which is, however, not given) proceedings were commenced, but were either abandoned by the parties arranging their differences under the mediation of the authorities or broke down from the want of the evidence required to establish the "previous concert" which constituted the offence. The strikes which gave rise to these proceedings do not appear, except in a very few cases, to have been of any importance, the majority of them having been limited to refusals to work on the part of the journeymen and apprentices for individual masters. The most important cases were in the great manufacturing centre, Elberfeld Barmen and Düsseldorf, and those during the twenty years in question were

only five in number. In one case 1,000 factory hands struck work; in another nearly 900. The longest duration of any of these strikes, however, was only ten days. In four out of the five cases the organizers were punished with short terms of imprisonment.

In the report on these strikes great stress is laid on the fact that in very many cases the police or other organs of the Executive had succeeded in restoring harmony and finding terms of compromise between employers and employed; and the observation is made, and doubtless with justice, that they were much assisted in this task by the knowledge which the workmen possessed of the power vested in the hands of the Executive by section 182. In all the cases recorded repressive measures seem to have been had recourse to with great promptitude and vigour; but, on the other hand, the punishments awarded appear to have been of the mildest kind, and remissions of sentences in part or in full the prevailing rule.

The following is the Bill or Draft of Law which the Government presented to the two Houses of the Prussian Parliament in the session of 1866, as the result of the inquiry which they had announced in the session of 1865, and the principal features of which have been above recorded :—

"We, William, by the grace of God, King of Prussia, &c., ordain and enact, with the consent of both Houses of our Landtag, as follows :—

"§ 1. Are hereby repealed :—

"1. §§ 181, 182, 183 of the Industrial Code of 17th of January, 1845.

"2. §§ 31, 32, 47, 48 of the Law of the 9th of February, 1849, touching certain alterations of the Industrial Code aforesaid.

"3. § 3 of the Law of 24th April, 1854, with reference to

"4. §§ 16, 17 of the Law of May 1860, having reference to the Supervision of Mines, &c.

"5. §§ 43, 44 of the Industrial Code of the Principality of Hohenzollern-Sigmaringen.

"§ 2. Agreements between persons who exercise a trade, or are engaged in manufacture ('gewerbtreihende') entered into for the purpose of compelling the journeymen b rworkmen in their employ to certain acts or concessions y stopping work, or dismissing such journeymen or work-

men as may not submit to their demands, are not legally binding on the persons who enter into them. The same applies to agreements entered into by journeymen or workmen for the purpose of compelling their employers to certain acts or concessions by ceasing to work or hindering work from being done.

"§ 3. Whoever shall by bodily coercion, by threats, by injuries against honour, or by laying under a ban ('verrufserklärung')*, move, or endeavour to move, others to take part in such agreements (§ 2), or to give effect to them, or whoever shall by similar means prevent, or seek to prevent, others from withdrawing from such engagements, shall be punished by imprisonment for a term not exceeding three months, excepting always cases for which the general Criminal Code provides heavier penalties.

"§ 4. The provisions of §§ 2 and 3 apply equally to the categories of workmen and employers enumerated in the law of April 24, 1854, and to employers and workmen connected with mines, roads, railways, fortifications, and other public works."

This Bill having passed both Houses of the Prussian Landtag, has become the law which will for the future regulate the combinations of workmen in Prussia.

No. 7.

Mr. Morier to Lord Stanley.—(*Received June* 6.)

My Lord, *Vienna, May* 29, 1867.

I HAVE the honour to transmit to your Lordship herewith the inclosed paper, in which Question 5 of the Memorandum contained in your Lordship's despatch of the 17th January is answered as regards the co-operative associations of the Zollverein for the purposes of mutual credit.

* I am unable to give the exact English equivalent of the term "verrufserklärung" in the technical sense which it must have in a legal enactment. In University life it has a special meaning attached to it, being applied to the systematic "cutting" of a man who has failed on some point connected with the law of honour. I am inclined to believe that its meaning in the text exactly corresponds to what in the phraseology of Trades Unions is termed "putting a man in Coventry," whatever that process may be.

I hope to be able to send shortly a supplementary paper on the remaining co-operative associations of the Zollverein, and thus to complete the information which I have been able to collect under this head.

Question 4 in regard to strikes and combinations has been answered in the papers inclosed in my preceding despatches.

I much regret that I am as yet unable to send the answers to Questions 1, 2, and 3, but I have convinced myself that the data required to give an approximately correct picture of the industrial and commercial development of the States of the Zollverein during the last few years and of the effect of such development upon wages, the price of primary articles of consumption, the displacement of labour, and the other topics to which those Questions have reference, cannot be obtained without research, statistical and other, in the local centres themselves, and for this purpose a personal visit to those centres, which my detention at Vienna for the present renders impossible, becomes indispensable.

I have, &c.
(Signed) R. B. D. MORIER.

Inclosure in No. 7.

Question 5. Do co-operative societies exist to any considerable extent amongst the working classes in the Zollverein. Whether as regards co-operation amongst them alone or in combination with employers, and have the results of such principle of co-operation been in favour of an extension of the system?

The principle of co-operative association has been applied upon a large scale in the Zollverein, but the manner of its application differs in some important respects from the co-operative phenomena exhibited elsewhere and may be said to be *sui generis* and peculiar to Germany.

Unlike the kindred movement in England which grew up as it were spontaneously amongst the working classes themselves and yielded results which the originators of the movement were the last to expect, co-operative association owes its origin in Germany, to the conscious effort of a

single individual, who from the first clearly foresaw the ultimate results towards which he directed his steps.

Unlike also the productive associations of France which, not without great individual suffering and large aggregate losses, had to work themselves clear of the socialist fallacies which attended their birth, the co-operative movement in Germany was nursed in its cradle by sound economists, who, conscious that economical principles were on their trial, and that if found wanting on the field of co-operation, the orthodox doctrine was doomed, laboured to prove by their works the soundness of their faith.

Complete victory has attended the efforts of M. Schulze-Delitzsch, the founder of the system, and the illustrious economists who seconded his efforts and tended with one hand the young associations during what has been aptly termed the period of their incubation whilst parrying with the other the assaults made upon them from opposite quarters. An account of the struggle thus brought to a successful issue would afford an instructive chapter in the history of the socio-political conflict being fought out at the present day between the ideas of Imperialism and individualism, of the state as a means, of the citizen as a free and, therefore, responsibible agent and the citizen as a mere passive link in a self-acting social machine.

Upon the present occasion it can only so far be touched upon as will suffice to place in its proper light what has to be said concerning the co-operative system actually in operation.

When M. Schulze-Delitzsch, founded his credit banks some fifteen years ago, he was opposed:

First, by the bureaucratic re-action which under the influence of the events of 1848, saw in every free association a conspiracy against the powers that be;

Secondly, by the socialists headed by Lassalle, a leader formidable by his undoubted capacity and the influence which his demagogic talents and especially his singular power of clothing the subtlest sophisms in popular language gave him over the working classes;

Lastly, by a portion of the so-called feudal section of the conservative party, who, strangely enough, carried away by certain superficial analogies between the schemes of Lassalle, and their own ideas of a return to an hierarchic redistribution of society, to a certain extent made common cause with him and canvassed the operative masses on socialist principles.

As regards the first of these hostile forces it will suffice to note the course which the conflict took in Prussia, where the matter was virtually decided. There were two phases of the conflict. In the first place the active hostility of the executive to the associations as such and, in the second place, its passive resistance to the introduction of a law recognizing the legal existence of the associations had to be overcome. The attempts made at Königsberg and elsewhere about the year 1856, to bring the associations under the control of the police, were frustrated by the Prussian tribunals which decided against the action of the executive, and in favour of the freedom of association for co-operative purposes. By this decision the associations obtained liberty of action and were freed from the vexatious interference of the police; but as they did not fall within the category of any of the recognized mercantile associations they still remained outside the pale of the law's protection and deficient in the corporate "status" and the consequent right of suing and being sued, the absence of which exposed them to legal dangers of various kinds.

It became, therefore, a matter of extreme importance to secure these rights through the action of the Legislature, and for several years this was an object for which M. Schulze-Delitzsch agitated in the Prussian Parliament.

To the present Prussian Ministry is due the credit of having this year carried M. Schultze-Delitzsch's Bill through the two houses of the Prussian Landtag.

Nor, however obviously just and politic the measure is in itself, should the merit of the official support given to it be reckoned too lightly, for it must be noted that M. Schulze-Delitzsch is a political opponent of the Government, and that in giving to him their assistance in the matter of his associations, and that not grudgingly and in half measure, but ungrudgingly and heartily, the latter practised the uncommon virtue of distinguishing between the social reformer and the political antagonist.

The law thus passed is given *in extenso* in the appendix.

Far otherwise dangerous to the prospects of the movement was the opposition it encountered from the Socialists and Lassalle, for here the parties to the contest recruited their respective forces from the classes upon whose participation or non-participation in the work of co-operative association, the whole future of the system depended.

Both systems, it should be noted, fixed upon association

as the remedy which should restore the social equilibrium to the advantage of the working classes. But the basis upon which they respectively endeavoured to build up their associations were radically different, and in this difference lies the antagonism between the two doctrines:

Self help is the Schulze-Delitzsch basis; *State help*, that of Lassalle. The fundamental principle, from which Schulze-Delitzsch evolves his social scheme, has been given in a former paper: it is the correlation between the wants with which man comes into the world and the faculties with which he is endowed to satisfy those wants.

All that his system in consequence demands of the State is that it should guarantee full liberty for the exercise of those faculties.

This view is ridiculed by Lassalle, as involving an abstract conception of man in a state of nature which has never had and never can have a real existence. It is with man in the concrete, with society as it exists that the social reformer has to deal, *i.e.*, with a community which consists of 96 "proletaires" and 4 capitalists to every 100 of its population, this community forms the State, and thus Lassalle's "proletaire," may exclaim with Louis XIV, "L'état c'est moi!" Hence, universal suffrage is the political object to be immediately striven for, and the agitation for this object is a main feature in the Lassalle programme. When the 96 have once got the political power out of the hands of the 4, it will be easy for them to organize the productive forces of society, so as to secure to themselves the lion's share of the produce. Lassalle hates Bastiat and the theory of economical harmonies. Force is the law which rules society. Before the French Revolution force was on the side of real property; it was the landed aristocracy that crushed the masses. The French Revolution dethroned real property, and set up personal property, *i.e.*, capital, in its stead. It is the bourgeoisie which now crushes the masses. But the bourgeoisie is doomed, the reign of capital is drawing to its end; the working masses know that force is now on their side, and that all they require is discipline and organization.

Schulze-Delitzsch accepts the recognized economical definition of capital. It is surplus produce, consciously set apart for the purposes of further production, and its creation therefore involves an act of abstinence from use,

i.e., of saving, which, unless it be remunerated by interest or profits, will not be repeated, it is a permanent economical phenemenon, and a necessary condition of production.

Lassalle denies the permanent character of the phenomenon, and maintains that capital is but an historical accident which owes its birth to the fact of all societies having begun with a state of slavery. Not saving, therefore, but forcible appropriation by the few of that which has been produced by the many is the origin of capital. Hence the necessity of discovering a new law for regulating the distribution of profits.

Lastly, in regard to the special matter of association, Schulze-Delitzsch's system is based upon the theory that all that is required to obtain credit, *i.e.*, the use of another man's capital, is the certainty or approximative certainty that this capital will be replaced, and an additional value created to pay for the use of this capital. But the only requisites to production are labour and capital; there is therefore no *à priori* reason why, if the former is credited with the latter, the act of production should not take place, and the borrowed capital be replaced, and the interest thereon be paid. All that is required is to find the forms under which labour can be invested with the status of a responsible debtor. A substantial pledge is there in the shape of so much muscular power and so much artistic skill. The skilled artizans of a community are as good a subject to a mortgage as the steam-mill which supplies it it with flour. All that is wanted is some equally safe means of assigning to the creditors a lien on the former as on the latter.

This Schulze-Delitzsch proposes to find in voluntary association with the conscious assumption of responsibility on the part of the associates, *i.e.*, in the corporate liability of a large number of units. Lassalle only sees the fact that the working man and the proletaire are one, that the characteristic of the proletaire is, that he has neither real nor personal property, and that out of nothing nothing can be made. Hence, no assets, no security, and therefore no credit, and consequently to give to labour direct access to capital the credit must be furnished by some third party; but the only third party than can do this on a sufficiently large scale is the State, *i.e.*, the ninety-six protetaires and the four capitalists, who together, possess an immense

credit power. He proposes, therefore, a vast organization af labour which shall eliminate competition, and furnish the associated operatives with the necessary capital on the credit of the State, which undertakes the risks, whilst the profits are divided amongst the operatives.

The above are a few of the leading points in the controversy waged *à outrance* between the principals during the lifetime of Lassalle, and still raging between the partizans of the two systems. The whole body of German operatives is ranged in the one camp or the other; and there is not an industrial town of any consequence in the Zollverein but has its Schulze-Delitzsch association and its Lassalle-Union, many of them with a daily or weekly press, besides a large miscellaneous literature.

The opposition of that fraction of the feudal party which, under the leadership of M. Wagener to a certain extent, made common cause with the disciples of Lassalle has been sufficiently described in the paper on the Combination Laws in Prussia.

The importance of this opposition should not be overrated. The Report of the Committee of the Upper House on the Combination Laws, quoted in the paper above referred to, proved that the bulk of the conservative party repudiated the views of M. Wagener, and the principles advocated in the petition of the "Popular Union," and the prestige which for a while attached to the authors of the petition from the favour they were supposed to enjoy with Government, was dissipated when, as has already been recorded, the sound economical traditions of the Prussian Administration once more asserted themselves under the healthy guidance of Count Itzenplitz, the present Minister of Commerce.

To get a perfectly clear idea of M. Schulze-Delitzsch's system of co-operative credit, it will not be superfluous, even at the risk of noting down some economical truisms, to analyze the conditions of the problem which co-operative association seeks to solve.

Co-operation, in the specific and technical sense which now attaches to the word, may be described as the economical answer to two questions put, but left unanswered by the earlier socialists, the one connected with consumption, the other with production, viz.:—

1. How to give to the consumer direct access to the producer.

2. How to give to the "immediate producer" (by which term I propose to designate the representative of the "labour" element in production) direct access to capital.

Socialism has the undoubted merit of having first propounded these problems; but instead of solving them, it set itself to rail against the merchant and the capitalist. The economists rushed to the rescue of the latter. In the celebrated passage of arms between Bastial and Proudhon, capital was reinstated in its position as the benefactor of mankind, and the "dangerous places" of socialism were once for all roped off, and due warning given to the public. But matters did not remain where they had been. The Socialists had dug into into new ground, and in doing so had come across latent social forces not dreamt of till then. Their misapplication of these forces has been perhaps too exclusively dwelt upon. Their discovery of these forces, and their setting them free, has perhaps not been quite sufficiently appreciated.

Thus, speaking figuratively, co-operative association may be described as the child of socialism rescued by the economists from the dangerous custody of its parent, and brought up in strict accordance with the orthodox tenets of the economical faith. It appears to me that the special merit of M. Schulze-Delitzsch and his friends consists in having undertaken and successfully carried out this economical education of co-operation.

The merit of practically solving the first of the two problems rests with the English originators of the co-operative stores associations; but it is with the second that we have to deal.

There are two ways in which co-operation endeavours to solve the problem "how to give to the 'immediate producer' direct access to capital," either immediately by an antecedent simultaneous act of aggregate saving on the part of the producers—a painful and arduous process, the most successful instances of which have as yet occurred in France, or mediately by crediting the "immediate producer" with the necessary capital.

In the one case, the three classes by whom as a rule the business of productton is carried on, viz., the owner of capital, the employer of capital (the middle man, "l'entrepreneur") and the "immediate producer" are merged

into one class, which absorbs in itself interest on capital, profits on capital, and wages.

In the second case, the three classes are reduced to two by the elimination of the middle man, "l'entrepreneur," and the "immediate producer," besides his wages, gets the profits on the capital, he himself, however, paying the interest.

The system of M. Schulze-Delitzsch belongs to the second category; its object is to furnish the "immediate producer" with the capital required for production; and whereas the "immediate producer" has only personal security to give, the principle of co-operation is invoked to give to that security a corporate in lieu of an individual basis.

A journeyman shoemaker not having wherewithal to buy leather and to maintain himself whilst he is making a pair of shoes, goes to a master shoemaker and works for wages. Out of the price paid for the shoes made by the journeyman the master shoemaker pays these wages, and the interest on the capital laid out—be it his own or borrowed capital—and obtains besides the ordinary profits of the trade.

If you lend the journeyman the capital required to make the shoes at the ordinary rate of interest, he will derive from the price of the shoes the wages of his labour and the ordinary profits of the trade.

But the risk of lending the necessary capital to the journeyman shoemaker is too great to enable you to lend it at the ordinary rate of interest, and the extraordinary rate at which alone you can afford to lend it would swallow up the profits of the trade, and leave the journeyman where he was, with the additional anxiety attendant on being a borrower. But why is the risk greater in lending capital to the journeyman than to the master shoemaker? Simply this, that the one has only his personal credit to dispose of, whereas the other has his shop, his stock in trade, or some other real security to give. In the one case there is a material pledge, in the other you are exposed to two risks; the journeyman may die or become disabled from work, or he may not have the good will to repay you; in neither case, owing to the absence of assets, can you recover your debt.

If, on the other hand, you lend capital to more journey-

men than one, these risks diminish in exact proportion to the number to whom you lend. The risk from death or disablement can be exactly calculated at any insurance office, and can, if the area be large enough, be provided against by an almost imperceptible addition to the interest paid. The risk from personal dishonesty can be provided for by accurate personal knowledge and the heaping up of motives of honesty.

It is with these elementary facts that the German associations of co-operative credit have attempted, and with perfect success, to deal.

The main cause of this success has been the clear perception from the outset of a few simple principles, and the obstinate adherence by M. Schulze-Delitzsch to these principles through all the varieties of their application. These principles may be summed up in these two sentences:—

Minimum of risk.

Maximum of responsibility.

The first is obtained—

1. By limiting the business of the associated credit banks strictly to the lending of money for productive purposes on a scale commensurate with the average requirements of the borrowers;

2. By limiting the borrowers to the members of the Association. The Association in its corporate capacity lends; the individual associate borrows.

Hence on the part of the lenders there is the most perfect knowledge of the circumstances and capabilities of the borrowers, and of the purposes for which the money is borrowed, reducing the element of chance to the smallest proportions and absolutely eliminating the element of speculation, for the borrower and lender being the same persons, the capital lent never, so to speak, goes out of the sight of the lender. Thus, though carried on with a rigid observance of the rules of business, the credit banks reverse the problem to be solved by ordinary banks, for their object is the interest of the borrower and not that of the lender; not the attainment of a maximum of dividend to the lender, but of a maximum of facility to the borrower. But, owing to the strict observance of business rules above adverted to, another and a striking instance is afforded of Bastiat's economical harmonies, as the credit banks have turned out a most lucrative and profitable business to the lenders.

The second principle, that of a maximum of responsibility, is attained by a rigid adherence to the principle of unlimited liability. In the absence of other assets, the creditor may recover on the private property of the associates, the members being jointly and severally liable for the debts of the whole Association, and the whole Association for the debts of each member. This principle, which has been attacked as unfairly weighting the better-off associates in comparison with the others in societies which must necessarily be composed of men who have nothing and men who have something, is, nevertheless, the key-stone of M. Schulze-Delitzsche's system, and that part of it on which he has throughout mode the most obstinate stand.

Before proceeding to give a general view of the co-operative credit associations which in an incredibly short space of time have covered the face of Germany, and an account of their relations, *inter se*, as part of a great system, I will attempt a short summary of the rules which M. Schulze-Delitzsch lays down for the conduct of the individual associations, and append to it a translation of the statutes of the Association at Delitzsch.

This Society was founded by M. Schulze-Delitzsch in the year 1851, in the town of Delitzsch, which M. Schulze for a long time represented in the Prussian Parliament.* It remained for many years under his immediate management, and became the model upon which the great bulk of the associations were constructed.

Membership.—The limit in the economical scale below which membership is inadmissible is determined by a simple rule. The cardinal principle upon which the system rests is that of self-help. The members, therefore, must be in a condition to help themselves. Persons not in this condition fall out of the domain of co-operation into that of charity. Hence the circumstances of the candidate for admission must be such as to afford the prospect of his repaying the advance made to him with the usual rate of interest, and this definition, as a general rule, will include all persons able to work and in regular employment. The surest test of the fulfilment of these conditions is the monthly payment of however small a sum towards the ultimate accumulation of a share.

* Hence the name by which he is universally known, for several persons of the name of Schultze having seats in the Chamber, the predicate Delitzsch was attached to his name for the purpose of distinction.

To obviate the dangers which might accrue from a sudden diminution in the numbers of the Association, members should only be allowed to leave at the close of the financial year, and a six months' notice should be given. Moreover, members who leave should not be entitled to the repayment of their shares until six months after the close of the financial year at which they leave.

Of the Capital of the Society, and Liability of the Members. Borrowed Capital, whether in the shape of Loans or Savings' Deposits.—The capital required for the working of the Association is furnished in two ways: 1, by the subscriptions of the members; 2, by loans contracted on the credit of the Association. It follows from the nature of the Association that the capital to be collected by the former method can only be very slowly accumulated. The majority of the members have no other possession than their labour; and their "being able to work" is the "estate" on which, so to speak, the mortgage is raised. It is, consequently, with borrowed capital that the bulk of the business has to be carried on. Now the credit which to the single workman is equal to zero, assumes *vis-à-vis* of a number of workmen associated together, each standing surety for the rest, very considerable proportions, if the following conditions are adhered to:—An independent share capital; a reserve fund; the deposit of the proper caution money on the part of the responsible officers of the Association; the finding of the necessary sureties by the borrowers; and, lastly, the keeping the business of the Association strictly to advances made to members, and completely clear of admixture with any other kind of business, such as that of production or consumption associations, where risks of a different kind get mixed with the risks proper to the Association, requiring different conditions as to persons, &c. All these precautions, combined with unlimited liability, result in the minimum of risk and maximum of responsibility laid down as the cardinal rule.

Responsibility for the debts contracted previously to the cessation of membership continues after such cessation. But such members have a right to demand to be freed from this responsibility within twelve months of their having left; and this can only be done in two ways, either by the consent of the creditors, or the winding up of the concern.

Besides the regular loans or debenture debts, a natural

fund from which to obtain capital for the use of the association, is that derived from savings' deposits. Great caution should, however, be used in having recourse to this source, for the rule that no larger measure of credit should be given to others than one enjoys oneself can never be departed from with impunity. If an association, therefore, lends money on a three months' credit, it cannot afford to borrow on a shorter term. But it is of the nature of savings' deposits to be withdrawn at shorter notices or without notice. It will therefore be proper to give higher interest than that usually afforded by savings' banks, upon the understanding that such deposits will be returned at short notices, if possible, but with no formal engagement to return them other than that of the usual loans.

Of the Stock Capital of the Association and the Reserve.—The stock capital of the Association, as compared with the borrowed capital with which it operates, should from the commencement not be less than 10 per cent. of the whole capital employed. It should be brought up as rapidly as possible to 20 or 25 per cent., and should ultimately reach a maximum of 50 per cent. This stock capital should be composed of two elements, viz.: of a reserve made up by equal contributions from all the members, and to which members leaving the Association have no claim; and of shares the personal property of the members, and which, under the conditions above given, can be taken out of the concern. The use of the reserve is to cover any incidental losses which cannot be covered by the profits, and which, if thrown upon the shares, would act as a source of discouragement and panic. The reserve should be formed out of the entrance-fees, and out of some small per-centage taken from the net profits. In the event of a dissolution of the Association, the reserve is divided equally amongst the members; and consequently, amongst other advantages, the existence of this fund acts as an inducement to join the Association, and as a deterrent against leaving it. As the money subscribed to the reserve, however, appears more or less a money once for all parted from, it is desirable to make the payment of the entrance fee as easy as possible, and to allow it to be paid in small rates. The entire net profits of the first year should be devoted to the reserve, and afterwards from 20 to 25 per cent. out of the net profits. The reserve fund should amount to from 5 to 6 per cent. of the entire capital of the Association, and

from 8 to 10 per cent. of the borrowed capital. There is, owing to the safe nature of the business done by the Association, no reason why the reserve should not be employed in that ordinary business as long as a separate account is kept.

Of the Shares.—The principle to be observed in respect of the shares are the following:—The shares must be of like amount, and this amount must be estimated by the business transacted as compared with the number of members composing the Association; hence the maximum amount of a share cannot exceed the quotient obtained by dividing the entire capital required for the undertaking by the number of members. If, *e. g.*, the annual amount of business done is equal to 80,000 thalers, requiring a capital of 20,000 thalers, and the number of members be 200, the shares cannot exceed 100 thalers, *i. e.*, 20,000 ÷ 200. This, however, would be an ideal state as yet reached by no association, the highest proportion yet reached being 50 per cent. of the capital; in such a case the amount of shares in the above instance would be 50 thalers.

This principle, viz., that each member shall have one share, and that the shares shall be all alike, must be strictly adhered to if the specific character of the Association is to be maintained. For unless it be so, one of two things happens: either a few richer members monopolize the shares, and the object, equal risks equal advantages, is not obtained; or a larger capital is accumulated than is required for the specific work of the Association, and other investments with other risks will be had recourse to. The richer members have always the alternative of paying up their shares in full, and thus at once drawing the dividends accruing out of the profits of the undertaking, which in the case of the less well off goes to making up the share. As a general rule in the smaller Association, the shares should run from 30 to 50 thalers; in the larger, from 50 to 100 thalers.

A natural temptation, but a very dangerous one, should be carefully guarded against—that of small shares with a large borrowed capital, yielding in appearance large dividends to the shareholders. The evils of such a system are of two kinds. In the first place, it is unsafe; as the only means of securing the associates against the dangers of unlimited liability consists in the gradual but certain accumulation of a stock capital in the proportions above

laid down as compared with the borrowed capital. In the second place, one of the most direct benefits of the association, that of compelling the associates to save and to invest their savings in a profitable undertaking, is, *pro tanto*, negatived. Instead of the apparent advantages of the small shares and large profits over the large shares and the small profits, the case really stands thus: Dividends are in both cases the same per head; but in the former case minus, in the latter case plus, an accumulated capital.

Those who know the effect upon persons of the working class of a saving successfully accomplished yielding a yearly revenue, however small, will appreciate all that this difference involves.

The amount of the shares once fixed by the statutes of the society, the members either pay them up at once in full or in monthly payments. Dividends are only paid to the members on the fully paid-up shares. The dividends accruing on the partly-paid shares are added to these till the share reaches its full amount.

Loss and Gain. Treatment of Dividends, and Mode of estimating Net Profits.—The principle that in proportion to the chance of gain must be the risk of loss, renders the following rule indispensable, viz., that when the share capital has to be come upon to liquidate the debts of the Association, only the amounts actually paid in shall be considered as forming part of that capital: unlike in this respect the method adopted in ordinary share undertakings, in which the first measure is to call upon the shareholders to pay up the shares in full. It has been observed that the dividends are distributed *pro rata* on the money actually paid in, the gains therefore have been proportionally greater. Hence in case of a deficit the following order is observed: 1stly. Reserve; 2ndly. The stock made up by the full or partly paid-up shares; 3rdly. Private property of members.

The net profits consist of the *plus* left on the total revenue after substraction of total expenses, and it is necessary to note quite clearly what that revenue and what those expenses consist of; the revenue of the Association consists of the interest paid upon money lent; the expenditure consists of—(*a.*) Interest paid on borrowed capital; (*b.*) Costs of administration; (*c.*) Losses.

Of the Forms of Indebtedness; Promissory Notes; Bills; Current Accounts.—The forms used in receiving advances from the association, are either the simple decla-

ration of indebtedness or promissory note, with corresponding declarations made by the sureties, or bills of exchange. The former is the usual form in the smaller associations and in remote localities where the habits of banking have not yet taken root, and the ordinary operations of credit are little known. In the more developed associations and the larger localities, bills of exchange are had recourse to, and the best plan is to adopt both forms according to the circumstances of the case. Accounts current presuppose the development of the credit association into a regular banking business carried on with a proper banking staff.

Amount of Advances, and terms for which they run.— The amount of the advances to be made will depend on the wants of the classes composing the Association ; and, 2ndly, on the funds at the disposal of the Association. At Delitzsch the Association began with a maximum loan of 50 thalers, which was soon raised to 1000. As regards the term for which advances should run, a cardinal rule is not to lend for longer than you can borrow. Three months is the usual term for loans contracted on personal security, and there is a good reason for this, this being a sort of average time within which capital in production on a small scale ("la petite industrie") is turned over. Besides, it is a good thing to force the borrowers to set their house in order every three months. A good plan is to pay back the money borrowed in fixed rates, one-third at end of first month, the second at end of second month, and so on. When a borrower wants money for longer periods the system of prolongation should be introduced, the debt being, as it were, tested at end of every three months ; for three months the probabilities of a man's fortunes can be tested, within a larger period adverse chances multiply.

Securities, viz., Sureties, Pledges, Mortgages. — To secure the Association against losses sustained by non-repayment of advances is a cardinal point in the business of the credit banks.

All the foresight and prudence of the Board of Direction must therefore be directed towards ascertaining whether the borrower has the power and the will to repay. Honesty in his dealings, skill and perseverance in his business, orderly habits, in fact moral worth are the criteria on the strength of which, as regards the smaller transac-

tions, the advances must be made, as in these cases there is no other security forthcoming. The knowledge as to capacity must come from thorough local acquaintance on the part of the directors, therefore in larger places sub-districts must be created under sub-directors. Where no material security can be given, the borrowers must procure two sureties, who must likewise be members of the association. A little over the amount of the share may be lent without security or sureties. At Delitzsch, on a 40-thalers share paid up, 60 thalers are lent without security. For larger loans in the absence of sureties, recourse must be had to pledges.

Mortgages should not be had recourse to if they can be avoided, the circumstances of personal and real credit being too different. However, small industrials who have real property besides their trade may use a mortgage as against a current account, and of course a mortgage should always be taken to cover a bad debt.

Interest.—The rate of interest charged must depend upon the state of the money market, and should not be settled absolutely in the statute. But a uniform rate must be fixed upon, which should be raised or lowered according to circumstances. There is no limit to the rate paid by working men outside of associations, 60 per cent. being a common rate and 700 per cent., one not unheard of. The rate of the existing associations varies between 6 and $14\frac{1}{3}$ per cent. per annum. It is usual to begin with a higher rate, and work down to a lower; borrowing money at $4\frac{1}{2}$ per cent., allowing 2 per cent. for expenses, lending it at 8 to 10, will leave a fair margin for dividends and reserve. As a rule, where business is great, and terms longer, low interest should be charged. Where the business is small, and the terms short, high interest. In the larger associations the decision respecting the rate of interest should be left to managers, in the smaller ones to the general assembly.

Administration of the Association; General Meetings; Committee of Management; President.—The principle of self-help requires not only the passive participation of membership as the basis upon which the credit of the association has to be built up, but likewise active participation in its business, so that though the administration and executive should be left by the association in the hands of its officers, the body of the association must retain in

their hands the constituent and legislative powers, as well as the general control over the managing body, *i.e.*, they must determine the general objects of the association, its judicial character, the nature of the business, the status of its members, their relations *inter se* and towards third persons, as also settle the principles upon which the details of the administration should be carried on.

These functions are exercised in the general meetings of the association, and the business to be transacted at these general meetings may be summed up as follows :—

1. The drawing up and altering of statutes.
2. The winding-up of the business of the association, or its prolongation.
3. The drawing up of standing orders for the despatch of business ; the granting of full powers, &c.
4. Election of officers ; president ; board of management, &c. : and, if necessary, their dismissal.
5. Decisions upon complaints against the former.
6. Interpretation of statutes, and settlement of differences between members.
7. Disposal of profits ; examination of yearly account, and discharge of those accounts.

The degree in which these subjects are *de facto* to be left to the general meeting will depend on which of the two directions the association belongs to. In the larger associations more must be left to the managing body, in the lesser more must be left to the general meetings. But as a general rule, as much as possible of the business of the association should be thrown upon the associates assembled in general meeting : in the first place as a means of intensifying the credit of the association, — for publicity is tenths of credit, and the more thoroughly business is transacted openly, and the exact circumstances of the association are known to the public, the more readily will the latter trust it.

In the second place as a means of business education. This is a point of the greatest importance, the general diffusion of business knowledge and business habits amongst the working classes being one of the first steps towards their emancipation from the tutelage of those whose fancied advantage it is to keep them in ignorance, as well as the only means of preventing them, during the process of such emancipation, from becoming the victims of economical fallacies.

This education is, moreover, necessary on practical grounds; for unless a body of business men is trained up within the association, always ready to supply the place of the managers when for some cause or other the latter cease from their functions, the whole business of the association may become suddenly paralysed, and with this paralysis the credit disappear.

The Executive should be composed of at least two persons, one to keep the accounts, and the other to check them; but three are better, and this is the almost universal rule, viz., a President or Chairman, a Cashier, and a Comptroller.

The President has the general management, the Cashier keeps the accounts, the Comptroller checks them, and is further employed as protocolist, rédacteur, &c.

This body is the Executive and represents the Association *vis-à-vis* of the public and of third parties, and for their acts towards these third parties the Association is responsible, and can only recover as against the persons composing this Executive.

Besides the Executive there should be a standing Committee whose duties, according to the character of the individual association, shade off into purely executive or into purely comptrolling. The standing Committee stands between the executive and the general body as a medium by which the former is always within sight of the latter. They know everything and can report, or they know everything and can act. In the Associations of which the Delitzsch Loan Association is the type, the standing committee is in fact an executive council; many executive acts requiring their signature. In the larger kinds of associations the functions of the standing committee are rather those of a board of control.

The standing Committee of the Delitzsch type of association meets once a week. The details of their functions are given in the statute of which a translation is appended.

Bookkeeping and Accounts.—Bookkeeping by double entry is not to be recommended to the smaller associations, though indispensable to the larger ones.

Salary of the Officials of the Association and the Deposit of Caution-Money.—The officers of the society should be paid. The work cannot be done properly unless it be remunerated, and the association cannot have the same hold on unsalaried as on salaried officials. The Cashier

and Comptroller are the two whom it is a *sine qua non* condition to remunerate. The payment of the President and members of the standing committee is a matter of choice. The Cashier, as the hardest worked official, should have the highest salary. Either the commission as distinct from interest is paid to them, or a tantième on profits, or a regular salary plus a tantième, the latter being the best plan. The Cashier and the Messenger of the association must be required, both of them, to pay down caution-money.

Actions at Law.—The members of the managing body represent the association in all legal actions, and a provision to this effect should be expressly contained in the statutes; it is understood that each single member may do so, although it is the Cashier who is usually entrusted with this office.

Such is a very concise summary of the general rules and principles to be observed in the creation of co-operative credit associations as laid down by M. Schultze-Delitzsch in a manual, the last edition of which was published in 1862.*

I should observe in reference to them that they principally apply to the type of association first founded, and of which the Delitzsch Union furnished the original model. A distinct form applicable to larger and more complicated credit transactions, and to which the principle of unlimited liability does not apply, has since grown up and is occasionally alluded to in the manual aforesaid. Its distinguishing character consists in its close approximation to ordinary banking establishments on joint stock principles, or rather on the "commandite" principle, in which one or more partners with a larger share of responsibility, and a greater control over the management, are jointly and severally liable to the extent of their whole fortune, the remaining shoreholders being only liable to the extent of their shares.

These associations are naturally confined to the larger towns, Dresden, Leipzig, Gotha, &c., and have none of the distinctive marks of the co-operative associations proper, except that the smallness of the share (in the Eisleben Association, which is the received type of the species, the

* "Vorschuss- und Credit-Vereine als Volksbanken. Praktische Anweisung zu deren Gründung und Einrichtung, von Schultze-Delitzsch." Dritte völlig umgearbeitete Ausgabe: Leipzig, Ernst Keil, 1862.

shares are 10 thalers (30*s.*) each), enables the same class of persons to become members of the one class of association as of the other.

Besides the radical difference between unlimited and limited liability the practical differences in the administration are these :—

In the Delitzsch class of association the real body of management is the standing committee, which is in fact an executive council, the President and financial officers being only the executive organs through which the orders of the standing Committee are executed ; but the Committee itself is immediately under the control of the general meetings, *i. e.*, of the corporate body of associates. It is in the hand of the latter, therefore, that the real power even in details lies, and it is this constant participation in the actual business of the association, and the constant sense of responsibility which this participation entails, which it appears to me has rendered the application of unlimited liability not only possible but highly successful. These associations are, in fact, small democratic republics in which the entirety of the citizens not only control the management of their affairs but themselves manage them.

In the associations of the larger type, the *bonâ fide* management, and with it the larger share of responsibility, lie with the unlimitedly liable directors. The standing committee is of the nature not of an executive council but of a board of control, and, though both are responsible to the general meeting, they are so, not so much for the details of management as in regard to their general policy and to the observance of certain general principles and rules. It is a constitutional form of government, in which the principle of division of labour has been applied to the functions of the body politic, the executive being strictly separated from the legislative functions, and the former invested with a strong prerogative.

It has been already observed that the Delitzsch Loan Association is the original type of the species, from which the entire co-operative credit system of Germany has grown up. I therefore annex a translation of its statutes, as drawn up by M. Schultze-Delitzsch.

Delitzsch is a small town, numbering 6,000 inhabitants, in Prussian Saxony. It possessed two credit institutions, which fully satisfied the requirements of the more well-to-do citizens, but offered no facilities whatever to the class of

small tradesmen and handicraftsmen whose credit necessities have been since provided for by the Loans Association. The history of this Association is especially interesting, as demonstrative of the correctness of M. Schultze-Delitzsch's principle of self-help; for in common with a great many similar associations it was originally founded in 1849, on the philanthropic principle then in vogue, of money lent gratis to the associations by charitable individuals.

During this period the number of its members sank from 117 to 30, and the utmost amount of business done arose, to loans, to the amount of 827 thalers granted in one year.

In 1852, M. Schultze-Delitzsch undertook its reorganization upon the principles explained in this paper, with the results shown in the following Table :—

Year.	Number of Members.	Amount of Loans Granted.	Amount of Share Capital.	Net Profits.	Circulating Capital at close of year, *i.e.*, Share Capital and Borrowed Capital.
		Thalers.	Thalers.	Thalers.	Thalers.
1853 ..	175	8,440	195	$8\frac{1}{3}$ ($23\frac{1}{2}$ th. to the reserve-fund.)	2,067
1854 ..	210	15,012	793	$86\frac{11}{12}$	3,560
1856 ..	301	24,532	2,787	231	6,639
1858 ..	382	45,197	4,930	392	12,987
1859 ..	429	70,954	5,760	477	19,594
1860 ..	453	77,039	6,915	437 (93 th. to the reserve-fund.)	20,671
1861 ..	484	81,708	7,927	532 (128 th. to the reserve-fund.)	24,815
1865 ..	514	92,035	11,552	741	31,295

Revised Statute of the Loans Association ("Vorschussverein") at Delitzsch.

§ 1. *Of the Object of the Association.*

The undersigned, in becoming members of the present Association, propose by means of their collective credit to procure for themselves and for each other the ready money

required for the carrying on of their respective trades and industries.

§ 2. *Of the Funds of the Association, and of its Circulating Capital.*

The funds of the Association consist—

(*a.*) Of the corporate property of the Association, which belongs to the Association as such, and is destined to serve as reserve to the cash business of the Association;

(*b.*) Of the individual property of the associates, *i. e.*, of their "shares" in the undertaking.

The capital required for the business of the Association is derived—

1. From the entrance-fees and annual subscriptions of the members, and the stock capital made up by the shares, whether paid up in part or in full, of the members.

2. From capital borrowed under the collective guarantee of the Association.

§ 3. *Of the Administration of the Association, and its General Meetings.*

The Association is a body independently administering its own affairs, and each member of which has an equal voice in that administration. For the conduct of its business and the direction of its administration it appoints, for the period of three years, and always subject to its own supervision and control, a standing committee ("ausschuss"), consisting of—

(*a.*) A chairman;

(*b.*) A cashier;

(*c.*) A comptroller;

(*d.*) Nine committee-men:

Of whom the first three are separately elected, whilst the committee-men are elected in a body. Every year one-third of the committee-men retire by rotation, and new ones are elected in their stead, every member remaining three years in office.

All matters, except such as by the present statute are or by future enactments may be delegated to the standing committee, are decided by the votes of the associated members, which votes are binding upon all members, provided always that they have been passed by a majority of the members present at a general meeting, and that a three

days' notice of such meeting, and of the subjects proposed for discussion thereat, has been given in the local papers.

General meetings have to take place regularly :—

(*a.*) At the close of the year, for the purpose of electing the members of the committee, of receiving and examining the financial report, and generally reviewing the affairs of the Association, of apportioning the profits, &c. ;

(*b.*) At the end of each quarter, for the purpose of receiving a "compte rendu" of the financial situation, hearing complaints against the administration, and discussing any other affairs of the Association.

General meetings may, moreover, be convoked at any time on urgent occasions, and must be so convoked if at least a tenth part of the members of the Association address to the committee a written request to that effect, pointing out the subjects of discussion.

The general meetings are convoked by the committee, which likewise fixes the order of the subjects to be discussed, giving due notice of these latter in the circular convening the meeting. In the order of discussion must be included all proposals, signed by at least ten members, of which notice shall have been given to the committee before drawing up their list of subjects.

The general meetings are presided over by the chairman; nevertheless upon a motion to that effect the presidency can, if the assembly should so determine, be conferred on any other member.

§ 4. *Of the Competency and Functions of the Standing Committee. Of the Executive, the several Functionaries composing it, and their powers.*

The standing committee and its several members are responsible to the Association for the due observance of the present statute, as well as of any resolutions that may hereafter be passed by the Association, and of any standing orders that may be enacted in virtue of such resolutions in regard to the management of the financial or other business of the Association.

All inquiries and proposals, and more especially all applications for loans made to the Association, must be addressed in writing to the committee, which decides thereon in its meetings, provides the necessary funds, cashes outstanding debts, and keeps the business in regular

working order. A sitting of the committee for the despatch of the current business must take place once every week on a day previously to be fixed, and in a fixed locality. At these sittings the committee decides upon all matters that come under its cognizance by a majority of votes, provided always that at least one-half of the members are present.

The committee can at any time call upon the financial officers (cashier and comptroller), who are placed under its control and supervision, to submit to its inspection all account books, lists and other documents, as well as to produce and, if necessary, hand over to them the cash balances; and in case of any irregularities or defaultings the committee can at once suspend such functionaries, pending their dismissal by a general meeting, which must in such a case be at once convened.

Furthermore, the committee is empowered, on behalf of the Association,—

(*a.*) To grant applications for loans against promissory notes or bills of exchange, in accordance with §§ 10 and 11 of this statute, and to prolong the term for which previous loans have been granted;

(*b.*) To dispose, for purposes of the Association, of the cash balances of the Association;

(*c.*) To contract loans and receive deposits on behalf of the Association, according to requirement, or to cause the same to be accepted by the treasurer in such a manner as that all members of the Association become jointly and severally liable to the creditors in respect of such transactions.

Nevertheless, the general meeting must previously fix the highest amount which all loans and deposits, taken together, shall not at any time exceed, and this amount shall not as a rule be more than twice the funds proper of the Association as composed of the corporate property of the Association and the share capital of the members.

In respect to any other engagements entered into on behalf of the Association, such as contracts, &c., the committee is bound previously to obtain the authorization of a general meeting.

The responsibility of the committee does not, however, imply liability for any deficiencies which the finances of the Association may suffer through the insolvency of its debtors, and errors the committee may have made in judging of the

solvency of such debtors are not to be laid to their charge.

The chairman conducts the meetings of the committee, and may, as occasion requires, convene extraordinary meetings to which all the members of the committee must be individually invited, with due notice of the subjects of deliberation.

The cashier receives and takes into his safe keeping all moneys paid in to the Association, and gives receipts for them; he has likewise to make the current payments, but only upon a written order signed by the chairman and one committee man.

He has further, according to special instruction,—

(*a.*) To keep the necessary books, accounts of income and expenditure, &c., and to submit them to the committee in the manner more minutely prescribed in the standing orders;

(*b.*) Annually to make out a complete account of income and expenditure, with the vouchers and other documents, and to prepare a balance-sheet to be submitted to the committee, and to the general meeting for examination.

The comptroller conducts the counterbooks and check lists, and assists in drawing up the accounts in such manner as to guarantee a minute control of the management of the cashier; the special directions for his guidance are likewise laid down in the standing orders. He has, moreover, to act as secretary, and as such to draw up the protocols of the general meetings and of the meetings of committee, and to carry on the correspondence conformably to the instructions of the chairman, who signs all letters issued in the name of the Association.

The chairman, cashier, and comptroller constitute together the executive of the Association, charged with carrying out the resolutions of the committee, as well as those of the Association at large. They represent the Association in its dealing with the public, so that all contracts signed and all engagements entered into by them collectively, in the name of the committee, are binding on the Association; but they remain liable towards the latter in all cases in which they have not acted in accordance with the resolutions of the committee or of the general meeting, or have acted without previous instruction.

Moreover, each of them singly can, in the name and on behalf of the Society, sue or be sued at law, bring actions,

effect compromises, take oaths, accept a decision as final, or appeal against it, or on the other hand cause themselves to be represented in all such transactions by attorney.

In case any of the aforesaid functionaries is prevented from attending to his duties, the committee has forthwith to appoint a substitute from amongst the committee men.

The chairman, the cashier, and the comptroller are remunerated for their services; the amount of remuneration is to be calculated upon the amount of business done and settled by special agreement between the Association and its officers. So also in regard to the caution money to be deposited by the cashier.

§ 5. *Of the Rights and Duties of the Members.*

The members of the Association are entitled:—

(*a.*) To vote on all resolutions of the Society, and at the elections of the officers of the Association;

(*b.*) To receive loans out of the funds of the Society, so far as these funds allow;

(*c.*) To participate, under the conditions fixed by § 9, in the profits of the business;

On the other hand, they are under the obligation:

(*d.*) To contribute towards the formation of a share, at least 5 silver groschen, monthly.

(*e.*) To bear collectively the working expenses;

(*f.*) To pay, either at once or at the terms hereafter specified, an entrance fee of 1 thaler each;

(*g.*) To undertake jointly and severally the liability for the money raised to carry on the business of the Association, and, so far as has not been done in their name by the executive, to sign the corresponding debentures;

(*h.*) Not to act against the present statute, or the decisions and the interests of the Society, and, lastly, to ratify the statute by their signature.

§ 6. *Of the Shares of the Members.*

The share of each member is fixed at 40 thalers as maximum amount, and may be paid up in full immediately on admission, or be completed, according to convenience, by instalments, on condition that the monthly contribution be not less than that fixed as the minimum amount by § 5, lit. *d.*

Until the share has been paid up in full, the dividends

accruing on the part-payments thereof shall not be paid to the shareholder, but shall at the end of each year be credited to him in a separate account with the instalments paid up by him towards his "share."

These instalments and these dividends remain the individual property of the members, but cannot during the duration of membership be withdrawn, either wholly or in part, from the funds of the Association.

The members of the Association are in regard to their shares creditors of the Association, these shares being of the nature of debts owed by the Association corporatively to the associates individually. Hence, when a member leaves the Association his share is paid over to him, in so far at least as he has not contracted corresponding obligations to the Association, amongst which is to be reckoned surety given on behalf of another member. It follows, also, that in the event of the dissolution of the Association, the totality of shares are to be liquidated as part of the debts of the Association. In the event, however, of the assets of the Association not sufficing to cover all the debts, inclusive of shares, the creditors proper of the Association, *i. e.*, the persons from whom the Association has borrowed, in its corporate capacity, have the priority over the shareholders, the shares resuming their character of a capital adventured in the business of the Association. In such a case no member has a claim against his co-associates on account of a larger stake thus lost; but if, on the other hand, less than the entire share fund is required to liquidate the debts proper of the Association, the amount is to be distributed *pro ratâ* amongst the members according to the amount of their shares.

§ 7. *Of the Reserve-Fund.*

For the purpose of covering deficiencies that may arise in consequence of the non-repayment of loans made to members, the corporate property of the Association (§ 2) is to serve as reserve fund, which fund is to be formed by contributions of the members, and by certain fixed percentages deducted from the net profits (§ 9). The total amount of the reserve fund, to be regulated according to the debts, shall be determined from time to time by the Resolutions of the Association.

All members are bound to pay towards this fund an

entrance-fee, at present fixed at 1 thaler, not repayable to the members on leaving. It is optional to pay this entrance-fee at once, or only two-thirds of it (20 silvergroschen) on entrance, and the remaining third (10 silvergroschen) within two years in two yearly rates of 5 silvergroschen each.

§ 8. *Of the Interest to be paid on Loans made to Members.*

The interest paid by the members on the loans they receive from the Association furnishes the fund out of which are to be paid: 1st, the interest paid on the capital borrowed by the Association; 2ndly, the working expenses of the Association; 3rdly, the dividends on the shares of the Association; and, 4thly, a portion of the reserve fund.

For this purpose the borrowers have to pay to the association—

(*a.*) Five per cent. interest per annum;

(*b.*) One quarter per cent. commission per month; viz., together 8 per cent. per annum: but in case of the repayment being delayed, 10 per cent. per annum from the day of the repayment being due.

The interest and commission, however, even for the shortest period, shall never be less than—

One silvergroschen on advances of from 3 to 5 thalers;
Two „ „ „ 5 to 10 thalers;
and so on, rising 1 silvergroschen on every additional 5 thalers.

The interest and commission shall be at once deducted by the cashier from the advances granted; and all arrears are to be recovered, at the latest, simultaneously with the repayment of the capital, or sued for at law. As a general rule in this respect it is laid down:

"That all repayments made by the receivers of advances are in the first place applied to the discharge of interest and commission, and only the remainder to the discharge of the capital."

§ 9. *Of the Dividends.*

When the interest of the capital borrowed by the Association, and the working expenses, have been covered by the interest and commission paid by the borrowing members of the Association, as described in the foregoing paragraph, the residue is distributed, at the end of the

year, in the shape of a dividend to the members, in proportion to the instalments paid by each of them on his share; and this process of adding the dividend to the instalments goes on till the shares have reached their maximum height of 40 thalers, when the dividends are paid over to the shareholders.

In calculating the dividend the shares of the individual members are only considered in so far as they make up a round sum in thalers, and exclusive of the payments made during the current year; the monthly contributions of the current year being thus only taken into consideration in calculating the dividends of the year next following.

As long as the reserve fund has not attained its maximum amount, there shall be deducted from the net profits to be distributed as dividend, and previous to such distribution, certain per-centages to be specially fixed by a Resolution of the Society. This proceeding must also take place whenever the reserve fund has, in consequence of losses incurred, fallen below its normal amount.

§ 10. *Of the Amount of the Loans to be granted, and of the Terms of Repayment.*

The maximum amount of the advances granted to the members must depend upon the actual state of the funds of the Association compared with the calls actually made upon those funds, and must be left to the conscientious consideration of the Committee. But the advances shall not, as a rule, be below 3 thalers (9*s.*), and above 1,000 thalers (150*l.*); with this general proviso, that whenever the funds of the association do not suffice to grant all demands, the prior demands shall have precedence over the later, and the smaller over the larger.

The terms of repayment shall not, as a rule, exceed three months, and the conditions imposed in this respect must be noted in the promissory note, bill, or other certificate of indebtedness. The repayment may be allowed to take place in several rates.

Nevertheless the Committee is authorized to prolong, after the lapse of the original term of repayment, and with the consent of the sureties, every advance for the period of another three months; in like manner several prolongations may be granted referring to the same loan, provided these prolongations do not extend together to more than three months beyond the original term of repayment.

§ 11. *Of the Conditions to be fulfilled by the Borrowers.*

To be able to claim a loan from the Association, the claimant must fulfil the following conditions:—

(*a.*) He must not be under the imputation of any crime or misdemeanour involving loss of honour;

(*b.*) He must not be in arrears in regard to any former advance made to him by the Association, and he must not have involved a surety in any loss;

(*c.*) His circumstances must afford a sufficient security for the repayment of the advance.

As regards the security, the committee, in cases of advances not exceeding the claimant's share by more than 10 thalers, has only to take into consideration whether the claimant and his circumstances are such as to justify the hope that the repayment is likely to take place. and to decide accordingly. If a claimant has already paid up his share to the full amount of 40 thalers, 60 thalers may be advanced to him without any special security. The chief points to be taken into consideration are laboriousness, skill, love of order, and honesty; and the committee may select, according to its free choice, from amongst the members of the Association, trustworthy and well-informed confidential persons, and take their advice on these points. Up to the amount of the shares advances are always to be granted.

In cases of advances above that amount the claimant is bound to give security either by sureties or by a pledge, on the acceptability of which the committee alone has to decide, and to grant or refuse the demand accordingly.

Further, if a member who has already received an advance on the security of sureties, and has not yet repaid it, demands a second advance, the latter cannot be granted except with the consent of the sureties to the former advance; by which consent, however, the surety does not, by the mere fact of consenting, assume any responsibility in respect to the new advance.

To the sureties who pay the debts of the borrowers for whom they have stood surety, or who substitute themselves as debtors, shall be vouchsafed the advantage that only 5 per cent. per annum shall be charged to them on the accrued interests of the original debtor, or on their own arrears of interest in regard to that debt.

Complaints respecting refused applications for loans must be referred to the next general meeting.

§ 12. *Of the Acquisition and Termination of Membership.*

Membership is acquired by signing the present statute after the formal admission by the committee has taken place; the latter may, if it considers the admission of the candidate not compatible with the interests of the Association, decline to admit him; the person rejected having a right to appeal to the general meeting.

The Association can by a resolution expel a member who has left his statutory obligations unfulfilled, and the committee can more particularly submit such a resolution to the vote of a general meeting whenever a member shall have remained three months in arrear with his subscriptions, or shall have given rise to legal proceedings against him for the recovery of an advance made to him.

Membership also ceases on the death of the member, or after a written notice given by a member of his intention to leave at the end of the current financial year.

The heirs of a deceased member are also for that period still bound to the obligations of membership. As regards the notice, it must be given at least six months before the close of the year, otherwise the member giving the notice cannot withdraw from the Association before the end of the next following year.

The member leaving, or his heirs, can only claim back the amount paid by him on his share and the dividend for which he already stands credited, and has no right of participation in the corporate property of the Society, *i. e.*, neither in the reserve fund nor in the dividend of the current year. The repayment of his share takes place only six months after the close of the financial year with which his membership ceases.

On the other hand, the member leaving can demand to be exonerated after the lapse of two years from all liabilities entered into during his membership towards the creditors of the Association.

If the finances of the Association are in a bad state, the only way for it to withdraw from the obligation thus to exonerate a retired member is to wind up its business, or, if need be, to dissolve itself, in which case the member in question is still proportionately liable for the engagements

entered into during his membership, so far as the assets may not suffice to cover all the debts.

From the day that his membership ceases the retired member is absolutely shut out from all interference in the affairs of the Society. All he is entitled to demand is to be furnished with a copy of the last monthly balance-sheet, with a general statement of the debtor and creditor account of the Society.

§ 13. *Of Honorary Membership.**

If a person, without claiming to participate in the advantages of the Association, yet promotes its objects, the committee may receive such person as honorary member.

This may take place when a person shall contribute, as at present, either—

(*a.*) A current contribution to the amount of at least 12 silbergroschen yearly;

(*b.*) Or a sum, once for all, of at least 1 thaler;

(*c.*) Or shall grant a loan to the Association, free of interest, of at least 10 thalers.

The honorary membership lasts a year for each full thaler given; in the case of current contributions, as long as these are paid; and in the case of loans free of interest, as long as these are left at the disposal of the Association.

The honorary members, however, have only the following rights and duties of membership:—

1. The right of voting in all affairs of the Society and of accepting functions conferred on them by the Society.

2. The obligation not to act against the present statute, or against any resolutions of the Association.

14. *Of the Dissolution of the Association and the Liability of the Members.*

The rule laid down in § 3, to the effect that a simple majority of the members present at a general meeting suffices to give validity to a resolution, suffers an exception

* The section with reference to honorary membership passed into the revised Statute of the Delitzsch Association from the statutes which were drawn up at the very commencement of the co-operative movement, and before it had worked itself quite clear of the philanthropic and charitable elements which at first clogged its purely business development. In the later associations M. Schultze-Delitzsch has carefully eliminated the "honorary" element.

in regard to a resolution having for its object the dissolution of the Association. In such a case two-thirds of the ordinary members of the Association must record their votes in favour of dissolution.

The honorary members have no vote in this matter, being only entitled, in case of dissolution, to demand the restitution of the sums contributed by them as presents to the Association, provided that these sums are not required to liquidate the debts of the Association; moreover, they must themselves claim the recovery of these sums from the committee within six weeks of the appearance in the local papers of the notice of the dissolution of the Association, otherwise they forfeit the same.

The repayment of the shares of the ordinary members also takes precedence of this restitution of presents made by honorary members. The members of the Association only become liable as regards their private estate to the creditors of the Association, when after the reserve fund and the share capital have been exhausted there still remain debts unliquidated.

§ 15. *Of the Exclusion of Legal Proceedings.*

In case that differences of opinion amongst the members should arise as to the tenor and meaning of this statute, or of the resolutions of the Society, such differences shall always be finally decided by resolutions of the Society at general meetings; and no member shall in any way be entitled to remonstrate or to take legal proceedings in regard to such difference of interpretation, all judicial interventions and actions-at-law in regard thereto being absolutely excluded.

Delitzsch, the

There only now remains to give some account of the general organization of the Credit Associations *inter se.*

The success of the Delitzsch Union naturally produced imitators, and M. Schulze-Delitzsch was consulted on all sides as to the framing of statutes and the rules and principles which should be embodied in these statutes. It should be noted that he had simultaneously started into life a number of other co-operative societies, in the shape of productive associations, co-operative stores associations, &c., to which reference will be later made. It should also

be noted that he was not possessed of any private fortune, but was dependent for his livelihood on his profession as a lawyer; nevertheless, during seven years, from 1852 to 1859, he devoted, without remuneration of any sort, so vast an amount of energy to the task on which he had set his heart, that at the latter date he had called into life 80 credit associations, comprising 18,000 members, and doing a yearly business to the amount of 4,000,000 thalers, besides 15 productive and raw material associations likewise doing very considerable business.

The movement had consequently taken dimensions which made it necessary for him either to devote himself entirely to it, and to establish a central administration with a proper staff, or wholly to withdraw from his connection with it in order to attend to his professional pursuits, his forced neglect of which was gravely compromising his means of support. In the former case it was obvious that he would be compelled to accept of a remuneration. Under these circumstances M. Schulze-Delitzsch drew up a very characteristic contract, in which, fixing his remuneration at an inconceivably low rate, and making it to depend on conditions which precluded the burden, small as it was, from being felt by the Associations, he bound himself to accept of no office, and to engage in no occupation which should prevent him from giving up as much of his time and energies to the business of the Associations as might required from him.

On the other hand, he stipulated that the remuneration he received should not place him in the position of a "mandataire" of the Associations, or of an officer bound to carry out their behests against his better knowledge.

The title he assumed was that of "Counsel" (Anwalt) to the United Co-operative Associations;* and, as will be seen later on, when the exact sphere of his duties is explained, this title exactly describes the functions with which he invested himself.

The remuneration which he fixed was a small percentage out of the net profits, so that such of the Associations as had not realized net profits would have the benefit of his assistance gratis. The amount to be paid by each Association was in no case to be less than 2 thalers (6*s.*),

* The United Associations included Productive Associations, Store Societies, and all the other kinds of co-operative unions.

or more than 12 thalers (36*s.*),* out of which sum, moreover, the salaries of the clerks and other office expenses were to be defrayed. At the time he entered into this contract (1859) he calculated that the proceeds of this yearly charge would amount to from 300 to 400 thalers (from 45*l.* to 60*l.*). In 1862, with 243 Credit Unions in full operation, comprising nearly 70,000 members, doing business to the amount of 23,000,000 thalers, and therefore necessarily taking up his entire time, the income he derived was 1,000 thalers (150*l.*).† Having entered into these business relations with the Associations, with which he had hitherto occupied himself, only as a friend, M. Schulze-Delitzsch set to work to give a definite and statutory form to the Union of Associations between whom, up to that time, he had been the sole connecting link. It was not until the year 1863 that the organic statute of this Union came into operation.

The following are its principal features :—

The Union consists of all German Co-operative Associations founded on the principle of self-help, and includes credit unions, productive unions, store unions, and any present or future variety of Associations to which the above distinctive marks apply, and who choose to join it and submit to its statutes.

It is sub-divided into provincial sub-unions, each with its own President and staff.

The legislative powers for the union are vested in a general assembly (Vereinstag), composed of delegates from the several societies, who meet once a year for the number of days required for the dispatch of business. The place of meeting varies each year.

* The maximum was later fixed at 30 thalers, but this was only done when the formation of sub-unions, each with a president, clerical staff, &c., had vastly increased the expenditure of the general administration.

† His persistent refusal to accept of a larger remuneration at the hands of the associations, induced the friends of the co-operative movement in Germany to get up a testimonial in the shape of a national subscription, which it was intended should place his private fortune upon a secure footing. For this purpose a subscription list was opened in 1863, which yielded 52,000 thalers; but here again he baulked in a great measure the wishes of his friends. He permitted the subscription, but refused to accept the proceeds as a donation to himself, making the condition that the whole sum should be invested by trustees, the income to be spent by himself, in the service of the associations, and at his death, or when he could no longer perform those services, by the person who should succeed him.

This assembly is supreme in regard to all matters which concern the union itself, and the rules and conditions of admission into the union ; it also disposes absolutely of all monies raised for common purposes, but its action over the individual Associations is of a very limited kind, and the independence of the latter in respect to their internal concerns is laid down as a principle never to be departed from. Even in regard to any new obligations to be entered into by the various Associations towards the union these can only become binding by the assent of the parties interested. The resolutions passed by the Assembly in regard to the general purposes and policy, the rules and principles that should guide the Associations have only the weight attached to them which belong to a body competent to pronounce a judgment. They are in fact only an intensified form of public opinion in regard to the co-operative public. But that this force, though only a moral one, is in all important cases a nearly irresistible one in regard to a system which is based on credit—that is, on opinion—is clearly manifest.

The organs of the Union are—

1. The Counsel (Anwalt), at the present time M. Schulze-Delitzch.

2. The Standing Committee, composed of the Presidents of the provincial sub-divisions.

The central offices are established at Potsdam, where M. Schulze-Delitzsch resides.

The functions of the Counsel are the following :—

1. To represent the united Associations in the press and at the yearly economical Congresses (to which reference has been made in a former paper), and in those States of Germany in which existing laws hamper the free development of co-operation, to agitate for the reform of those laws.

2. To assist by his advice and counsel in the creation of new, and in the development of existing, Associations.

3. To act as the medium of inter-communication between the various Associations for the interchange of their respective experiences and the establishing of business relations between them.

4. To draw up statistics of all the data furnished by the Associations so that the results may be year by year accurately tested.

5. To edit a monthly paper which should serve as the

official organ of the Union, and at the same time discuss all matters having reference to the co-operative movement at home and abroad. This journal, under the name of "Die Innung der Zukunft" ("The Guild of the Future"), is published at Leipzig.

The functions of the standing Committee (which remains constituted "en permanence," though its members live far about, and are consequently under the necessity of transacting much of their business by correspondence), are :—

(1.) To assist the counsel ("anwalt") with their advice in urgent cases for which the general assembly of Delegates cannot be convoked, and in regard to which the counsel does not desire to take the entire responsibility of action on himself.

(2.) To decide by a majority of votes on the orders of the day, the subjects of discussion, &c., to be submitted to the general assembly.

(3.) To exercise an independent control over the accounts and financial arrangements of the Union, and to check the expenditure incurred by the counsel.

(4.) In the event of the counsel being from whatever cause prevented from continuing the discharge of his duties, to appoint a provisional substitute pending the convocation of the general assembly.

In the cases that come under 1 and 2 the counsel ("anwalt") presides; in those under 3 and 4 the Committee elect their own President.

In the above sketch of the general organisation of the co-operative unions in Germany the following features should be noted :—

The movement, as was observed at the commencement of this paper, originated with M. Schulze-Delitzsch, who has been, so to speak, its soul and moving principle, but, on the other hand, it should not the less be noted that the impulse once given, and the rules and principles of co-operative association having by M. Schulze-Delitzsch's unceasing agitation and activity been thoroughly popularized, the movement assumed the form of spontaneous growth. From the yearly reports it appears that not more than one-half of the Credit Associations, and a still less proportion of the Productive Associations are registered at the central office, and belong to the general union. Of those thus registered, and which furnish the statistics of

the yearly reports, a large number have but slightly, if at all, availed themselves of the direct assistance of M. Schulze-Delitzsch. It was not until the movement had assumed the largest proportions that the attempt at consolidation and at a quasi-centralization was made. But this centralization has left the perfect independence and autonomy of the several associations unscathed. The general assembly does not arrogate to itself the power of legislating for the individual associations and the head of the entire organization by selecting the title of "counsel," has repudiated the notion of a central executive.

Thus, from the foundation to the coping-stone of the edifice, one principle prevails—self-help, self-dependence, self-reliance; but this autonomy and independence is supplemented by the maximum of inter-communion and the giving of the utmost scope to voluntary inter-dependence and interchange of services. As in the several associations the greatest local variety in the details of the statutes is combined with perfect identity of general principles, so again in the relations of the various groups *inter se*, a greater or less degree of intimacy exists, and different forms of inter-communion have been applied; but the ruling principle of voluntary association remains unimpaired.

Hence, in this remarkable system in which no room was found for dictatorial powers, and no scope given to the terrorism of majorities, that great ideal of all popular institutions has been realized, viz., utmost variety combined with utmost harmony.

The co-operative system of Germany is a remarkable monument to the genius of a master mind content to seek in moral forces the lever of his power, and to the capacity of the German nation for self-government and for confederative action, when once that action is based on popular principles.

After having finished his organization of the united associations, M. Schulze-Delitzsch turned his efforts to two further steps in the movement:—

1. The acquiring of corporate rights for the associations, and the obtaining for them of a secure legal status.

2. The foundation of a great central bank, which should act as the common credit reservoir, from which, in case of local drought, the unions should be irrigated.

After many years of endless labour, he succeeded this year in getting his own law passed by the Prussian Parlia-

ment. The Parliamentary history of this law in its various stages is highly interesting, but it would be impossible to to do justice to it within the limits of this paper. Up to the last, great doubts respecting its being passed in a form which he would have accepted prevailed. For a remnant of the old bureaucratic spirit had induced the Government to insist on a clause making concession by the Government a preliminary condition to the acquisition by any society of the corporate rights to be accorded by the law; and the Upper House, in a similar spirit insisted on a clause rendering the presence of a Government Commissioner obligatory at the general meetings.* The firmness of the Lower Chamber, and the good sense of Count Itzenplitz, the Minister of Commerce, however prevailed, and the law was passed in its original form. A translation of it is given herewith *in extenso.*

M. Schulze-Delitzsch was equally successful, and at an earlier date, in founding his central bank, which was established at Berlin, and began business in 1865.

It was founded on the "commandite" principle, with a capital of 270,000 thalers, in shares of 200 thalers each.

Its object is to give to the associations, hitherto dependent for their credit supplies upon the local facilities which they might severally enjoy, direct access to the general loan market. M. Schulze-Delitzsch lays a great stress on the primary necessity of securing the local credit, and distinctly set forth, that if after existing for a year or two, an Association has not succeeded in securing that credit, there must be something fundamentally wrong in its constitution. But he insists not less strongly as a reserve force, and especially in moments of crisis, when when local credit is apt to be suddenly withdrawn, upon the Associations being placed by an organ of their own in direct communication with the central reservoirs of capital, and for this object the central bank was established.

There only now remains to give a general view, taken from the last statistical tables published by M. Schulze-Delitzsch, of the results of the system. The following data apply to the year 1865, the report for 1866 not being yet published:—

* It should be noted that Sections 26 and 34 of the Law amply provide against the misuse of the corporate rights granted by the Law for political or other purposes than those distinctly specified in the Law.

Total number of Credit and Loan Associations which have sent in their statistics to the central bureau ..	498
Total number of members	169,595
	Thalers.
Total amount of money advanced during the year 1865. (Roughly, 10,000,000*l.* sterling.)	67,569,903

TOTAL INCOME:

	Thalers.
1. Interest and commission paid by borrowers ..	1,321,707
Ditto, ditto, still due	50,822
2. Other miscellaneous sources of income, such as sale of securities, &c.	27,365
Ditto, ditto, still due	2,002
Total income	1,401,896

TOTAL EXPENDITURE:

		Thalers.
1. Interest on borrowed capital	520,594	
Ditto, ditto, still due	178,964	
		699,558
2. Cost of administration and salaries ..	215,345	
Ditto, ditto, still due	77,819	
		293,164
3. Miscellaneous costs		23,239
Total expenditure		1,015,961

	Thalers.
TOTAL LOSSES	20,566

NET PROFITS:

	Thalers.
Total of net profits	371,735
Applied as follows:	
1. To the reserve-fund	90,974
2. Dividends	272,493

DEBIT:

	Thalers.
Share capital	4,442,879
Borrowed capital	11,154,579
Savings deposits	6,502,197
Reserve-fund	409,679
Total	22,505,220

CREDIT:

	Thalers.
Cash balances	1,001,585
Securities	1,002,172
Outstanding claims	20,342,146
Fixtures, office furniture, &c.	82,934

It must be remembered, in gauging the importance o these results, that the Associations of which the above statistics are given, represent but little more than one-half of those notified to the Central Bureau, viz., 498 out of 961, the remaining 463 either not having furnished any statistics at all, or not having done so in the form necessary for the tabulated statement published each year.

It should be also noted, that I have not included the productive and other co-operative associations not belonging to the class of credit unions, and which must be treated of in a separate paper.

The whole number of Associations of all kinds, including those notified to the Central Bureau, and those known to exist, was calculated by M. Schulze-Delitzsch, in 1864, at 1,300, with more than 300,000 members. It must have considerably increased since then.

Appendix.

Prussian Law granting Corporate Rights to Co-operative Associations.

WE, William, by the Grace of God King of Prussia, &c., enact, with the consent of the two Houses of our Landtag, as follows:—

Part I.—*Of the Formation of the Association.*

§ 1. Societies with unlimited membership, whose object it is by the transaction of business in common to enlarge the credit, increase the trade, profits, and further the household economy of their members, viz.:—

1. Loan and Credit Unions;
2. Raw Material and Store Unions;
3. Unions for the production and sale of finished wares on a common account (Productive Association);
4. Unions for the purchase of the necessaries of life, wholesale and the selling them retail (Consumption Associations);
5. Unions for providing the members of such unions with dwelling-houses;

Acquire under the conditions herein after described the rights designated in the present law as those of "Registered Associations."

§ 2. The requisites to the constitution of such associations are—

1. The drawing up of the statutes in writing;
2. The assumption of a common name (Firma);

The name of the association must be derived from the object of the undertaking, and have affixed to it the title "Registered Association."

Neither the names of the members (associates), nor those of any other persons must appear in the name of the Association. Every new name must be clearly distinguished from those of any previously existing Registered Association in the same locality.

§ 3. The statutes must contain—

1. The name and seat of the Association ;
2. The object of the undertaking ;
3. The duration of the Association in the event of the same being established for a limited period only ;
4. The conditions under which members join and leave the Association ;
5. The amount of the shares of the several associates, and the way in which these shares are paid up ;
6. The principle upon which the balance sheet is drawn up, and the profits are reckoned, and the way in which the balance sheet is audited ;
7. The mode of election, and the composition of the managing body, and the forms under which the members of this body are invested with their full powers ;
8. The forms used in convoking the associates ;
9. The conditions under which the associates exercise their votes ;
10. The subjects which are not decided by a simple majority of the associates present at a general meeting, but which require a larger proportion of votes or other conditions ;
11. The forms used by the Association in making its announcements, and the public journals in which these announcements are made ;
12. The condition that all the associates are jointly and severally liable for the debts of the Association, and that this liability extends to the whole of their private estate ;

§ 4. The statutes of the Association must be deposited with the Commercial Tribunal of the district in which the Association has its seat, and be entered in the register of associations, which shall form part of the general commercial register. An extract of the statutes must be published containing the following points :—

1. The date of the statute ;
2. The name and seat of the Association ;
3. The object of the undertaking :
4. The duration of the undertaking, if limited to a definite period ;
5. The names and domiciles of the managing body ;
6. The form in which the announcements of the Association are made, and the public journals in which they are made.

At the same time, public notice is to be given of the

fact that the list of the associates is at all times open to inspection at the Tribunal of Commerce.

If the statute determines the form in which the managing body gives expression to its resolutions and signs on behalf of the Association, this provision is likewise to be made public.

§ 5. Before the Association has been entered on the register it cannot enjoy the rights of a registered association.

§ 6. Every alteration in the statutes must be committed to writing, and notified to the Tribunal of Commerce by the transmission of a duplicate copy of the resolution passed to that effect by the Association.

The same process takes place in regard to a statute when altered as that which took place in regard to the original statute. Its publication is only so far necessary as alterations have been made in the points originally published.

The resolutions of the Association have no legal force until they have been entered in the register of the Commercial Tribunal of the district in which the Association has its seat.

§ 7. At every Commercial Tribunal in whose district the Association has a branch establishment, the latter must be entered on the Register of Associations, and the procedure described by Sections 4, 5, 6, for the parent Association be observed.

Part II.—*Of the legal "status" of the Associates "inter se," and of their legal status and of that of the Association towards other persons.*

§ 8. The legal "status" of the associates "inter se" is determined in the first instance by the statutes. The latter, however, can only in so far deviate from the principles laid down in the following sections as such deviation is expressly declared to be allowable.

In the absence of other stipulations in the statute gain and loss will be divided amongst the associates per head.

§ 9. The rights which the associates enjoy with reference to the affairs of the Association, more particularly in regard to the conduct of its business, the examining and auditing of the balance sheet, and the determining the

distribution of the profits, are exercised by the totality of the associates in general meeting assembled.

Each associate has a voice at such meetings unless the statutes stipulate to the contrary.

§ 10. The Registered Association can acquire rights and enter into binding engagements; it can become possessed of landed property, or acquire other real rights on such property; it can sue and be sued.

The Association is under the ordinary jurisdiction of the tribunal of the district in which it has its seat.

The provisions of the general German Mercantile Code and those of the introductory law of 27th June, 1861, with reference to merchants apply in a similar manner to the associations in so far as the present law does not constitute exceptions.

§ 11. The associates are jointly and severally liable with their entire estate for the debts of the Association in so far as, in the event of liquidation or bankruptcy, the property of the association is not sufficient to cover the liabilities.

Whoever enters into an existing Association is equally with the other members liable for the engagements entered into by the Association before his becoming a member.

Any stipulation to the contrary has no binding force against other persons.

§ 12. Private creditors of associates have not got the right to claim, for the satisfaction of their debts, effects, claims, or rights which belong to the estate of the Association. Such creditors can only put in an execution, attachment, or distraint upon that which the associate himself has a claim to in the shape of interest or profit, and that which falls to his share upon the winding-up of the Association.

§ 13. The provisions of the foregoing section apply equally to private creditors in favour of whom a mortgage or lien on the property of an associate has accrued in virtue of legal proceedings. Such mortgage or lien not extending to the effects, claims, or rights which form part of the estate of the Association, but being confined to that which was specified in the last paragraph of the foregoing section.

Nevertheless any rights or claims which may have been in force against such effects before they became part of the

property of the association are not invalidated by the foregoing paragraphs.

§ 14. As long as the Association exists, claims of the Association cannot be compensated either in their whole extent, or in part, by the private claims which the person indebted to the Association can raise against a member of the Association.

§ 15. If the private creditor of an associate, after fruitlessly distraining upon the private property of such associate, obtains a right of execution upon the share which would accrue to the associate upon the winding up of the concern, he can, whether the Association be founded for a limited or unlimited period, demand for the satisfaction of his debt that the associate leave the Association. Notice to that effect must, however, be given at least six months previous to the close of the financial year.

Part III.—*Of the Managing Body, the Council of Supervision, and the General Meeting.*

§ 16. Every Association must have a Managing Body elected from amongst the associates. By it the Association is represented judicially and extra-judicially. The Managing Body can consist of one or more members, who may be salaried or not. It is at all times removable, with a claim, however, to compensation if such arise out of existing contracts.

§ 17. The names of the Managing Body must immediately on their nomination be notified to the Commercial Tribunal and be entered on the Register, and the Tribunal must be made acquainted in an official form with their signature.

§ 18. The Managing Body sign for the Association. If the Statute contains no particular stipulation on the subject, the signatures of all members of the Managing Body are required.

§ 19. The Association obtains rights and is subject to obligations in all legal matters entered into by the Managing Body on their behalf. It is matter of indifference whether such business has been concluded expressly in the name of the Association, or whether circumstances prove that it was the will of the Contracting Parties that it should be concluded for the Association.

The competency of the managing body in representing the Association extends to those affairs and legal proceedings

for which the law requires special full powers. To legitimate the managing body in all matters concerned with the registry of mortgages a certificate of the Commercial Tribunal to the effect that the persons designated are the managing body suffices.

§ 20. The managing body is bound to observe the limits placed to its functions by the statutes or by the resolutions of a general meeting. This limitation of the powers of the managing body, however, is not valid as against other persons.

§ 21. Oaths can be taken by the managing body in the name of the Association.

§ 22. Changes in the members of the managing body must be notified and entered on the register.

§ 23. In serving writs on or giving legal notices to the Association it suffices that this should be done upon or to a member of the managing body who is empowered to sign on behalf of the Association.

§ 24. The managing body is bound at the end of each quarter to notify to the Commercial Tribunal the names of the members who have joined and of those who have left the Association during the quarter, and once a year in January to give an exact alphabetical list of all the members.

The Tribunal rectifies by these lists the original list deposited with it.

§ 25. The managing body must within the first six months of each financial year publish the balance sheet of the preceding year, and the number of the actual members of the Association.

§ 26. Members of the managing body who have in that capacity acted beyond the limit of their powers or against the provisions of the present law or of the statutes of the Association are liable with their whole estate for the losses which may accrue out of such acts.

If they busy themselves with other objects than those specified in the present law (§ 1), or if they allow or do not prevent the discussion of subjects at the general meetings which have no reference to the business of the Association, but are concerned with public affairs (see § 1 of the Law of 11th March, 1841, for the prevention of the misuse of the right of meeting), they incur a fine of 200 thalers.

§ 27. The statutes can provide for the creation side by side with the managing body of a Council of Super-

vision. This Council superintends the administration of the managing body in all its branches. It acquaints itself with the state of its affairs, inspects the books and the cash-balances, and can convoke general meetings. It can, pending the decision of the general meeting, and if it should seem necessary, depose the managing body and take the necessary measures for the provisional transaction of the business.

It must examine the yearly accounts, and report thereon to the general meeting.

§ 28. The Council of Supervision is charged to bring actions at law against the managing body if the general meeting has resolved on such actions.

If the Association has to bring actions against members of the Council of Supervision, it must, by the vote of a general meeting, name persons with the necessary full powers to carry on the suit.

Every member of the Association is authorized to intervene in the suit at his own expense.

§ 29. Full powers can be given by the Association, *ad hoc*, to other persons than the members of the managing body or the Council of Supervision; the exact extent of the functions thus vested in these persons being exactly specified in the full power.

§ 30. The general meetings are convoked by the executive body, unless otherwise specified in the statute.

General meetings, besides the occasions for such meetings specified in the statute, are to be convoked whenever it appears in the interest of the Association to do so.

§ 31. The convoking of the general meeting must take place according to the forms fixed by the statutes.

The subjects for discussion must on every occasion be notified simultaneously with the convoking. No resolutions can be passed upon subjects of which notice has not thus been given. For the mere proposing of resolutions and for discussions not ending with a formal resolution, no such notice is required.

§ 32. The managing body is bound to observe and execute all the provisions of the statutes, as well as the resolutions of the general meetings passed conformably to the said statutes.

The resolutions of the general meetings must be entered in a register of protocols, which must be open to the

inspection of every associate, and of the organs of the Government.

Part IV.—*Of the Dissolution of the Association, and the Leaving it by individual Associates.*

§ 33. The Association is dissolved—

1. By the conclusion of the period for which it was formed;

2. By a resolution of the Association;

3. By a declaration of bankruptcy.

§ 34. If an Association is guilty of illegal acts by which the welfare of the community suffers, or if it pursues other objects than those business objects specified in the present Law (§ 1), it can be dissolved without claim to compensation.

In such a case the dissolution can only take place upon the passing of a judicial sentence on the prosecution of the district authorities. The competent tribunal is that to whose ordinary jurisdiction the Association is subject.

The sentence of the tribunal is to be communicated to the tribunal which keeps the register of the Association, that it may be entered therein and published according to § 36.

§ 35. The dissolution of the Association, if it does not take place in consequence of a declaration of bankruptcy, must be notified by the managing body for entry in the register of the Association, and must be announced three times consecutively in the public journals.

This announcement must besides call upon the creditors of the Association to send in their claims to the managing body.

§ 36. The declaration of bankruptcy is to be officially entered in the register by the tribunal charged with the bankruptcy proceedings, and notice of the same is likewise to be published in the public papers.

§ 37. Every associate has the right to leave the Association. If there are no express stipulations in the statutes on the subject, the associate can only leave at the close of the financial year, and must give a four weeks' notice at the least. Membership, moreover, ceases with death, unless the statutes contain stipulations carrying such membership on to the heirs at law.

The Association can, on grounds which must be specified in the statute exclude members from the Association.

§ 38. The associates who leave, or who are excluded from the Association, as also the heirs of deceased members, remain liable for all debts of the Association contracted before the date of the cessation of membership, until the period of limitation.

Unless the statutes contain stipulations to the contrary, such persons have no claims on the reserve fund, or the corporate property of the Association, and can only demand the repayment of their shares with the dividends accrued upon them, such repayment to be made within three months of their leaving the Association.

The Association can only protect itself against such a claim, even if the property of the Association should have diminished at the time of such cessation of membership, by dissolving itself and proceeding to wind up the business.

Part V.—*Of the Winding-up of the Association.*

§ 39. After the dissolution of the Association, except in the case of bankruptcy, the winding up of its business is undertaken by the managing body, unless the statutes or a resolution of the Association designate some other persons for that purpose. The appointment of the liquidators is always revocable.

§ 40. The liquidators must be notified to the Tribunal of Commerce, and their names entered on the register. If a liquidator vacates his office, or if his power of attorney expires, notice must likewise be given.

§ 41. The relations of the liquidators towards other persons are determined by §§ 25 and 40 of the General German Commercial Code. If there are several liquidators they can only legally transact business by doing so in common, unless it be specially stipulated that they can do so individually.

§ 42. The liquidators have to wind up the current business, to fulfil the engagements of the dissolved Association, to call in outstanding claims, and to convert the property of the Association into cash. They have to represent the Association judicially and extrajudicially, they can compound and make compromises. To wind up current business, they can enter into fresh engagements.

The liquidators can only effect the sale of real property by auction, unless there be stipulations to the contrary in the statute or resolutions of the Association.

§ 43. The limitation of the functions of the liquidators as against other persons has no legal force.

§ 44. The liquidators have to give their signature in such a manner that they affix their names to the former name of the Association which is now to be designated as the name of the Union to be wound up.

§ 45. The liquidators have, in the management of the business committed into their hands, to conform themselves to the resolutions passed by the general meeting.

§ 46. The moneys in the hands of the Association at the time of dissolution, and those which during the process of winding-up flow into the hands of the liquidators, are to be applied as follows:—

(*a.*) First, the creditors of the Association are to be satisfied as the money owing to them falls due.

(*b.*) From what remains, the shares, with the dividends accrued upon them, are to be repaid to the associates. If the assets are not sufficient to pay these in full, the distribution takes place according to the relative proportions of the shares.

(*c.*) From what remains after paying the debts of the Association, and the shares of the members, there will, in the first place, be distributed the profits of the last year as prescribed by the statutes. If any property should then remain, the same, in the absence of special stipulations to that effect, shall be distributed amongst the members per head.

§ 47. The liquidators must begin by drawing up a balance-sheet. Should the result of this balance-sheet be that the property of the Association (inclusive of the reserve-fund and the share-capital) does not suffice to cover the debts of the Association, the liquidators have at once on their own responsibility to call a general meeting, and hereupon, if within eight days the associates have not contributed sufficiently to cover the deficit, they have to apply for the opening of the commercial bankruptcy in regard to the assets of the Association.

§ 48. Notwithstanding the dissolution of the Association the legal status of the Associates *inter se*, and towards other persons, remains until the close of the liquidation the same as that laid down in Parts II and III of the present Law. In the event of the dissolution of the Association, no member can be made liable by means of regress on account of the smaller amount of the calls on shares which he may have paid according to the statutes, by the other members

of the Association, who have paid up more on their shares. The jurisdiction under which the Union was at the time of its dissolution remains in force for the Union which is to be dissolved, till the close of the winding-up. Citations addressed to the Associations can be delivered to the hand of one of the liquidators.

§ 49. After the conclusion of the winding-up, the books and papers of the late Associations are to be given into the custody of one of the former associates, or of a third person. If agreement cannot be come to as to who this person should be, the Tribunal of Commerce determines.

The associates and their heirs retain the right of examining and using these books.

§ 50. Besides the case provided for by § 47, bankruptcy is declared whenever the Association, either before or after dissolution, has stopped payment. (See § 281, No. 2, of the Bankruptcy Law, &c.)

The notice of such stoppage of payment, if before the dissolution of the Association, must be given by the managing body; if afterwards, by the liquidators.

The Association is represented in the one case by the managing body, in the other by the liquidators. Such representatives have to appear personally to give the necessary information, as in the case of an ordinary debtor. A concordate cannot take place.

The declaration of bankruptcy in regard to the corporate property of the Association does not involve a declaration of bankruptcy in regard to the private property of the associates.

The decision in regard to the opening of bankruptcy must not contain the names of the members who are jointly and severally liable.

As soon as the bankruptcy proceedings are ended the creditors have the right to recover their claims (only in so far, however, as they were put in and verified during the bankruptcy proceedings, but inclusive of interests and costs) on the private property of the individual associates.

Part VI.—*Of the Limitation of Claims against Associates.*

§ 54. The limitation of claims against an associate for debts incurred by the Association during membership comes into force two years after the dissolution of the Association, or after the date of his quitting the Associa-

tion or being excluded from it, in so far as the peculiar character of the claim does not involve a shorter period.

The two years are reckoned from the day on which the dissolution of the Association was entered on the register, or the cessation of membership was notified to the Tribunal of Commerce. If the claim became only due after this date, the time is reckoned from the date at which such claim became due. If there remain undistributed assets, the two years' limitation cannot be enforced against the creditor in so far as he founds his claim only on the corporate property of the Association.

§ 52. The limitation in favour of a member who has quitted it or been excluded is not interrupted by legal proceedings undertaken against another member of the Association, but by legal proceedings undertaken against the still existing Association.

The limitation in favour of a member of the Association who belonged to it at the time of dissolution is not interrupted by legal proceedings undertaken against the liquidators or the bankruptcy.

§ 53. The limitation runs likewise against minors and persons under guardianship, as well as against corporations which legally enjoy the rights of minors, without admittance of the *restitutio in integrum*, but with the proviso of redress against the guardians and administrators.

Concluding Provisions.

§ 54. The Commercial Tribunal holds the managing body to the observance of §§ 4, 16, 17, 22, 24, 25, 32, 35, 40, by the infliction of fines and penalties, as provided in § 5 of the introductory portion of the General German Commercial Code of 24th June, 1861.

Inaccuracies in the notices given by the managing body are to be fined 20 thalers.

§ 56. Section 55 does not exclude more rigorous measures if they are enjoined by other laws.

§ 57. The registrations take place free of cost. The details respecting the way in which the registers shall be kept will be given in a general instruction, to be drawn up by the Ministers for Commerce, Industry, and Public Works, and Justice.

The Ministers aforesaid are charged with the enforcement of the present Law.

No. 1.

Lord Howard de Walden to Lord Stanley.

(Extract.)

Associations have occasionally been formed among the workmen with a view of maintaining and increasing the rate of wages, but up to the present moment they partake of no political character, and are not affected by any legislative provision. Freedom of association is assured by the Belgian Constitution.

There are but five or six so-called Co-operative Societies in Belgium, formed on the plan of the popular German banks, and a few associations modelled on the Pioneer Society at Rochdale.

As these Societies are of recent formation, it is not possible, as yet, to judge of their results in a co-operative point of view.

No. 2.

Extracts from a Work entitled "De l'Etat de l'Industrie et du Commerce en Belgique, et des Institutions qui s'y rattachent:" par M. J. Clerfeyt, Attaché au Ministère de l'Interieur.

Sociétés de Secours Mutuels.

La loi sur les sociétés de secours mutuels est du 3 Avril, 1851. Nous avons déjà fait connaître son but, ainsi que les avantages qu'elle procure aux sociétés reconnues ;* nous nous bornerous donc ici à exposer les résultats obtenus durant la période de 1852 à 1860.

* Voir le précédent Exposé de la Situation Administrative du Royaume, titre iii, chap. vii, p. 314 et suiv.

Les associations dont nous avons à nous occuper sont:

1. Les sociétés de secours mutuels reconnues.

2. Les sociétés de secours mutuels qui, sans être reconnues, envoient annuellement, à titre officieux, leurs comptes à l'autorité administrative.

3. Les sociétés pour l'achat de provisions d'hiver reconnues.

4. Les sociétés de même genre non reconnues et qui communiquent également leurs comptes annuels.

Au 31 Décembre, 1860, le nombre total de ces associations s'élevait à 91, et elles comptaient 19,796 membres. Le Gouvernement a ordonné une enquête sur les associations de prévoyance existantes en Belgique au 31 Décembre, 1861; les renseignements, encore incomplets, qui lui sont parvenus, se rapportent à 291 sociétés, dont 230 comptent environ 45,000 membres effectifs; en 1850, le nombre total des sociétés était de 211, et celui des affiliés de 24,367. Il ressort à l'évidence de la comparaison de ces chiffres que l'esprit d'association va se développant dans notre pays; il en résulte, d'autre part, que la Loi du 3 Avril, 1851, n'a pas été sans produire quelque fruit, puisqu'elle a eu pour effet de mettre l'administration en relation plus ou moins directe avec le tiers environ des associations actuellement connues.

Avant d'entrer dans d'autres détails, nous rappellerons que les sociétés de secours mutuels ont pour principal objet d'assurer à leurs membres des secours temporaires en cas de maladie, de blessures ou d'infirmités. Ces secours comprennent, d'une part, les soins du médecin ou du chirurgien, les médicaments, &c.; d'autre part, un secours pécuniaire. La plupart des sociétés pourvoient, en outre, aux funérailles de leurs membres décédés, et, lorsque leurs ressources le permettent, elles accordent à la veuve ou aux enfants du défunt un ou plusieurs secours temporaires; la Loi du 3 Avril, 1851, leur défend de promettre des pensions viagères, l'expérience ayant démontré que ces pensions dépassent les limites de leurs ressources. Certaines sociétés ont pris des mesures pour l'affiliation de leurs membres à la caisse générale de retraite; mais comme les membres les plus jeunes peuvent seuls, avec leurs économies et l'appui que leur assure l'association, se créer des pensions de retraite, ces sociétés ont eu soin, en même temps, de constituer un fonds de secours en faveur de ceux de leurs membres déjà trop âgés pour se procurer des rentes suffisantes à la Caisse de retraite.

A peu d'exceptions près, les sociétés de secours mutuels admettent des membres honoraires ou protecteurs, et leurs statuts stipulent que les membres effectifs seuls participent aux avantages de l'association. Leurs ressources se composent du produit des cotisations des membres effectifs et des membres honoraires ; du produit des amendes encourues dans les cas prévus par les statuts, et des droits d'entrée exigés des membres nouvellement admis ; des subventions éventuelles de l'Etat, de la province et de la commune ; des dons et legs faits à la société ; enfin, des intérêts des fonds placés.

Les cotisations des membres effectifs se payent communement par semaine, rarement par mois, et elles varient dans le premier cas, de 6 à 30 centimes, et dans le second de 50 centimes à 2 francs.

Les subventions accordées par l'Etat n'ont pas, jusqu'ici, dépassé le taux de 300 francs ; elles ont eu exclusivement pour objet d'aider des associations nouvellement reconnues à couvrir leurs frais de premier établissement.

A la suite de la Loi du 3 Avril, 1851, est intervenu l'Arrêté Royal du 12 Mai, qui a chargé une Commission Permanente de s'occuper des questions relatives à l'exécution de la loi. Cette Commission est consultée sur tout ce qui intéresse les sociétés de secours mutuels, et notamment sur les demandes en reconnaissance légale. Elle adresse chaque année au Ministre de l'Intérieur un rapport contenant l'exposé des opérations faites par les diverses sociétés que nous avons indiquées plus haut.

C'est à ces comptes-rendus que nous empruntons les renseignements qui vont suivre :

1. *Des Sociétés de Secours Mutuels reconnues.*—Au 31 Decembre, 1852, 9 sociétés avaient obtenu la reconnaissance légale. Ce nombre s'est ensuite accru d'année en année, et, au 31 Décembre, 1859, on comptait 28 sociétés reconnues, mais dont 26 seulement avaient fonctionné. A la fin de 1860 le nombre s'en élevait à 35. Nos renseignements embrassent la période de 1852 à 1860 inclusivement.

Voici le tableau du nombre des membres, ainsi que des recettes et des dépenses de ces sociétés, durant cette période :—

Années.	Nombre des Sociétaires.				Recettes.			Dépenses.						
	Membres honoraires.	Membres effectifs.		Total.	Cotisations des Membres Honoraires.	Cotisations des Membres Effectifs.	Total.	Secours pécuniaires accordés aux Malades.	Honoraires des Médecins.	Frais Pharmaceutiques.	Secours donnés aux Infirmes.	Frais de Funérailles.	Versements à la Caisse de Retraite.	Total.
		Hommes.	Femmes.		Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.
1852	210	949	131	1,080	1,761 0	9,994 1	19,477 56	4,674 30	1,927 34	2,010 76	199 0	138 38	756 96	11,388 16
1853	376	1,936	127	2,063	2,963 90	18,061 85	27,186 89	12,101 84	3,945 54	2,240 84	458 0	347 39	4,211 76	25,831 9
1854	530	2,525	161	2,686	5,283 50	25,953 31	40,538 83	19,168 63	4,151 58	4,456 30	497 65	552 57	1,374 43	35,021 9
1855	547	2,843	169	3,012	6,345 60	28,938 12	45,610 42	23,816 10	4,247 74	5,817 13	468 18	748 97	1,824 61	41,303 19
1856	602	3,403	172	3,575	7,443 60	33,990 99	53,306 74	23,667 1	4,287 65	6,698 75	387 0	593 97	1,631 49	42,839 96
1857	591	3,738	163	3,901	7,502 80	39,222 64	59,547 86	29,718 30	4,941 59	6,679 2	487 0	627 79	1,401 57	49,308 73
1858	582	4,266	170	4,436	6,964 0	42,091 34	60,466 93	29,510 10	6,341 22	6,445 34	617 6	1,272 70	1,303 14	52,911 18
1859	570	4,452	179	4,631	6,908 10	45,841 23	63,497 47	29,167 22	6,069 90	6,259 7	713 64	860 73	844 21	54,982 77
1860	726	5,403	164	5,567	7,241 15	54,191 65	80,097 59	32,096 58	7,045 41	6,821 29	1,060 60	1,083 72	1,416 80	58,418 10

Les subventions diverses accordées aux sociétés, soit par l'Etat, les provinces et les communes, soit par les hospices civils, se répartissent ainsi qu'il suit :—

	Fr.	c.	
1852	1,050	0	
1853	1,400	0 à 4	sociétés.
1854	900	0 à 2	„
1855	1,200	0 à 3	„
1856	2,117	60 à 7	„
1857	1,200	0 à 3	„
1858	1,575	0 à 5	„
1859	2,537	19 à 4	„
1860	8,002	41 à 7	„

Ces subventions, de même que les cotisations payees par les membres protecteurs, sont, comme on peut le voir, des branches de ressources sujettes à de continuelles variations ; aussi ne cesse-t-on de recommander aux sociétés de ne compter jamais que sur leurs propres fonds, et d'établir leurs calculs sur des bases qui leur permettent de se passer de secours étrangers. On leur conseille encore de n'employer ceux-ci, le cas échéant, que pour constituer un fonds de réserve en faveur des vieillards, des veuves et des infirmes, et aussi pour parer aux nécessités extraordinaires dans les mauvais jours.

Les intérêts des fonds placés, à partir de 1853, se sont successivement élevés à 1,924 francs 59 centimes pour 1853 ; 2,226 francs 96 centimes pour 1854 ; 2,847 francs 15 centimes pour 1855 ; 2,933 francs 97 centimes pour 1856 ; 3,025 francs 19 centimes pour 1857 ; 3,614 francs 86 centimes pour 1858 ; 4,262 francs 64 centimes pour 1859 ; et 5,205 francs 3 centimes pour 1860.

Si l'on compare le total des recettes et des dépenses de chaque exercice, on trouve les résultats suivants :—

Excédant des Recettes sur les Dépenses.

	Fr.	c.
1852	8,080	40
1853	1,355	80
1854	5,517	74
1855	4,307	0
1856	10,466	78
1857	10,039	13
1858	7,555	75
1859	8,514	70
1860	21,679	49

Les différences que l'on remarque dans ces chiffres doivent être attribuées à diverses causes. Nous venons

d'en indiquer une en signalant la valeur précaire de certaines articles de recettes ; d'autre part, la cherté des vivres dans certaines années et la multiplication des cas de maladies qui en est la suite ordinaire, ont naturellement influé sur le montant des dépenses. Il faut ajouter encore que les sociétés n'administrent pas toujours leurs fonds avec une prévoyance irréprochable : c'est ainsi que quelques-unes d'entre elles, sans tenir compte des sages conseils qu'on ne cesse de leur donner, partagent chaque année entre leurs membres une partie plus ou moins importante de leurs ressources. Enfin, il est des associations qui, pour divers motifs, n'ont pas produit leurs comptes pour certains exercices.

Toutefois, ces circonstances n'ont pas influé d'une manière fâcheuse sur la situation générale des sociétés, car leur encaisse annuel n'a pas cessé d'augmenter, comme le prouve le relevé ci-après :—

Montant de l'encaisse des Sociétés à la fin de chaque Exercice.

	Fr.	c.
1852	38,443	24
1853	59,189	51
1854	69,817	26
1855	75,480	18
1856	77,042	23
1857	86,956	69
1858	93,010	52
1859	116,462	32
1860	147,768	79

Pour faciliter les appréciations, nous donnons ci-dessous, toujours d'après les rapports de la Commission Permanente, la réduction en moyenne du chapitre des dépenses considérées au point de vue du nombre des malades, du nombre des journées de maladie, ainsi que des frais qui en sont résultés. En voici le tableau : —

Années.	Nombre		Durée Moyenne des Maladies.		Nombre des Maladies sur 100 Sociétaires.	Moyenne des Secours Pécuniaires par Journée de Maladie.	Dépenses Totales pour le Service des Maladies.*	Cotisation Moyenne des Membres Effectifs par Tête.	Moyenne des Dépenses.	
	Des Malades.	Des Journées de Maladie.	Par Malade.	Par Sociétaire.					Du Service des Malades par Sociétaire.	Y compris les Frais de Funérailles.
			Jours.	Jours.		Fr. c.	Fr. c.	Fr. c	Fr. c.	Fr. c.
1852 ...	235	5,427⅞	23·00	5·33	23·00	0 86	8,612 40	9 25	7 97	8 60
1853 ..	423	13,478¾	21·50	6·53	20·50	0 89	18,288 22	8 75	8 86	9 3
1854 ...	733	15,111	20·61	5·62	27·29	1 26	27,776 51	9 65	10 34	10 54
1855 ...	831	18,546⅜	22·32	7·14	32·00	1 28	33,880 97	9 96	11 25	11 49
1856 ...	980	19,952⅜	20·36	5·58	27·41	1 18	34,653 41	9 80	9 69	9 86
1857 ...	1,356	28,596	21·08	7·33	34·76	1 3	41,338 91	10 22	10 35	10 70
1858 ...	1,407	28 667¾	20·37	6·46	31·74	1 3	42,296 66	9 74	9 53	9 82
1859 ...	1,574	31,548⅝	20 02	6·81	33·99	0 93	41,496 19	10 20†	8 96	9 15
1860 ...	1.600	32,622⅝	20·39	5·86	28 74	0 98	45,963 28	10 23	8 26	8 45

2. *Des Sociétés de Secours Mutuels non reconnues.*—Le nombre de ces sociétés qui ont envoyé officieusement à l'administration le compte de leurs opérations annuelles, a été de 31, en 1852; de 30, en 1853; de 40, dans chacune des quatre années suivantes; de 34, en 1858; et de 42, en 1859. Il n'est guère possible de donner un aperçu complet de leur situation. car, soit indifférence, soit prévention, ces associations ne fournissent, en général, que des documents très-défectueux. Les unes ne font pas connaître le nombre de leurs membres; d'autres négligent d'indiquer celui des malades et des journées de maladie; d'autres encore se sont même quelquefois contentées de faire connaître le chiffre global de leurs recettes et de leurs dépenses.

Le tableau que nous présentons ci-dessous ne peut donc donner qu'une idée imparfaite des opérations de ces sociétés :—

* Ce service comprend les secours pécuniaires, les honoraires médecins, les frais pharmaceutiques, les bains, ventouses et objets de pansement.

† Y compris le produit des amendes et des droits d'entrée qui s'élève, pour 1859, à 1,415 fr. 7 c.

Années.	Nombre des Sociétaires.				Recettes.			Dépenses.					
	Membres Honoraires.	Membres Effectifs.		Total.	Cotisations des Membres Honoraires.	Cotisations des Membres Effectifs.	Total.	Secours Pécuniaires accordés aux Malades.	Honoraires des Médecins.	Frais Pharmaceutiques.	Frais de Funérailles.	Versements à la Caisse de Retraite.	Total.
		Hommes.	Femmes.		Fr. c.	Fr. c	Fr. c.	Fr. c.	Fr. c.	Fr c.	Fr. c.	Fr. c.	Fr. c.
1852	308	7,251	789	8,040	1,518 15	74,187 0	102,122 39	46,253 50	10,813 15	9,346 55	2,123 0	...	73,567 62
1853	150	6,462	1,298	7,760	607 0	87,918 94	116,679 90	53,036 12	13,609 75	12,440 74	1,862 51	486 62	87,495 31
1854	296	8,283	1,366	9,649	1,070 0	95,351 88	148,148 51	55,232 35	16,511 19	13,621 79	2,556 26	881 44	116,455 18
1855	278	10,637	1,175	11,812	1,231 87	99,665 57	129,608 10*	60,878 14	22,306 83	17,073 45	2,158 54	1,212 44	120,288 54
1856	383	8,241	1,204	9,445	2,034 10	147,841 75	204,309 25	111,928 63	23,104 73	27,267 20	1,994 14	168 84	200,504 62
1857	244	9,707	1,286	10,993	1,389 36	118,759 0	140,089 18	81,040 89	23,384 56	29,106 22	2,650 63	563 0	148,000 42
1858	333	9,201	1,354	10,555	1,260 34	110,610 54	144,387 20	66,673 30	23,184 93	28,302 37	2,618 66	...	130,074 18
1859	911	9,942	1,473	11,415	1,758 90	107,944 74	161,520 39	79,396 47	25,460 84	25,523 98	3,764 68	...	146,587 26
1860	379	9,308	1,681	10,989	1,545 20	103,109 19	202,074 70	73,769 18	21,554 4	22,699 29	2,066 7	...	159,536 28

* Plusieurs sociétés jouissant de fortes recettes n'ont pas envoyé leurs comptes pour 1855.

L'encaisse des sociétés a été successivement de : —

	Fr.	c.
1852	71,423	8
1853	86,118	95
1854	99,517	93
1855	103,595	15
1856	84,803	58
1857	109,630	52
1858	86,707	17
1859	83,673	30
1860	81,447	68

En résumant les données du tableau ci-dessus, on trouve que les chiffres représentant les cotisations des membres effectifs et les dépenses du service des malades se groupent ainsi qu'il suit :—

Années.	Cotisations des Membres Effectifs.*	Service des Malades et Frais de Funérailles.
	Francs.	Francs.
1852	74,187	68,536
1853	87,919	82,949
1854	95,352	87,922
1855	101,056	102,417
1856	149,167	164.294
1857	116,727	136,182
1858	113,590	120.779
1859	110,682	133,146
1860	104,788	120,089

Si l'on recherche quel a été en moyenne, pour les sociétés qui nous ont permis de faire ce calcul, le montant par tête des cotisations des membres effectifs, on obtient les résultats suivants :—

	Fr.	c.
1853	13	70
1854	11	21
1855	7	25†
1856	8	1
1857	8	17
1858	8	56
1859	8	32
1860	9	18

3. *Sociétés pour l'achat de provisions d'hiver reconnues.* —La Loi du 3 Avril, 1851, a admis à la participation des avantages accordés aux sociétés de secours mutuels, les

* Y compris les amendes et droits d'entrée.

† A partir de 1855, on a opéré avec le produit des cotisations augmenté de celui des amendes et des droits d'entrée.

associations ayant pour but de faciliter aux associés l'accumulation de leurs épargnes, pour l'achat d'objets usuels, de denrées, &c.

Ces associations ont pris peu d'extension en Belgique ; aussi, le nombre de celles qui se sont fait reconnaître est-il fort restreint : on en compte en tout sept.* 3 d'entre elles ont fonctionné en 1853 ; 2 seulement en 1854 et en 1855 ; 3 en 1856 ; 4 en 1857 ; 3 en 1858 ; autant en 1859 et 1860. La cotisation payée par les membres effectifs, dans ces sociétés, varie de 10 centimes à 2 francs par semaine.

Voici le résumé de leurs opérations annuelles :—

Années.	Nombre des Membres.		Recettes.			Dépenses.		Montant de l'Encaisse à la fin de chaque Exercice.
			Cotisations des Membres		Total Général des Recettes.	Montant de l'Achat des Denrées.	Total Général des Dépenses.	
	Honoraires.	Effectifs.	Honoraires.	Effectifs.				
			Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.
1853 ...	160	721	579 80	19,533 76	24,597 92	24,488 43	25,911 73	197 29
1854 ...	69	271	219 50	6,384 88	7,247 85	6,653 76	7,363 4	184 64
1855 ...	170	604	1,035 0	11,653 67	15,675 65	13,835 72	14,114 96	3,154 18
1856 ...	425	993	3,003 0	16,519 99	22,556 42	17,238 89	20,873 81	4,958 42
1857 ...	346	895	2,413 0	15,496 5	19,665 64	18,222 94	19,092 70	6,121 75
1858 ...	303	574	1,420 50	9,255 59	12,213 99	10,974 8	11,495 65	6,322 47
1859 ...	240	586	1,927 25	10,324 78	13,933 26	12,773 76	13,209 41	6,709 45
1860 ...	234	720	1,889 0	12,260 76	16,503 25	15,813 17	16,343 83	6,359 78

4. *Sociétés pour l'achat de provisions d'hiver non reconnues.*—Les renseignements que l'administration a reçus chaque année de ces sociétés peuvent être considérés comme complets.

Le Tableau ci-près en offre le résumé :—

Années.	Nombre des Sociétés qui ont communiqué leurs Comptes.	Nombre de leurs Membres.		Recettes.			Dépenses.		Montant de l'Encaisse à la fin de chaque Exercice.
				Cotisations des Membres.		Total Général des Recettes.	Montant de l'Achat des Denrées.	Total Général des Dépenses.	
		Honoraires.	Effectifs.	Honoraires.	Effectifs.				
				Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.	Fr. c.
1853 ...	14	1,002	2,610	6,933 5	36,417 12	49,931 84	49,549 72	49,893 66	2,889 46
1854 ...	13	631	2,828	4,639 27	43,041 17	56,100 86	55,546 1	55,835 58	2,961 29
1855 ...	15	1,529	5,269	9,364 99	102,160 59	130,603 14	123,571 16	126,457 62	3,765 64
1856 ...	16	1,511	4,335	8,493 9	62,948 17	85,715 45	79,705 41	81,504 11	8,363 47
1857 ...	12	1,237	4,049	7,534 79	55,411 96	69,384 39	69,098 11	70,642 76	4,822 31
1858 ...	11	541	2,248	3,510 45	29,133 75	38,269 88	37,196 36	37,308 26	1,484 88
1859 ...	12	1,099	2,535	6,317 21	35,180 63	46,593 17	43,718 91	49,949 74	2,061 84
1860 ...	12	1,088	2,520	5,549 87	42,238 65	52,485 66	51,559 63	52,912 31	2,089 35

* Par suite de la dissolution du Cercle Philanthropique de Gand, en 1860, ce nombre a été réduit à 6.

Dans la plupart des sociétés pour l'achat de provisions d'hiver, les cotisations ne sont perçues que pendant six mois de la bonne saison. Plusieurs de ces associations étendent leurs opérations à l'achat d'objets de vêtement, d'ustensiles de ménage, &c. En général, elles distribuent à prix réduit les denrées achetées pour l'hiver, et il arrive fréquemment par là que leurs dépenses excèdent leurs ressources.

Coalitions Industrielles.

En Belgique, toute coalition ou concert préalable, ayant pour but, soit de faire baisser abusivement les salaires, soit de suspendre, d'empêcher ou d'enchérir le travail, est prohibée d'une manière absolue.

La coalition entre patrons, pour forcer injustement et abusivement l'abaissement des salaires, suivie d'une tentative ou d'un commencement d'exécution, est, aux termes de l'Article 414 du Code Pénal, punie d'un emprisonnement de six jours à un mois, et d'une amende de 200 à 5,000 francs.

L'Article 415 punit d'un emprisonnement d'un mois au moins et de trois mois au plus, lorsqu'il y a eu tentative ou commencement d'exécution, toute coalition de la part des ouvriers pour faire cesser en même temps de travailler, interdire le travail dans un atelier, empêcher de s'y rendre et d'y rester avant ou après certaines heures. D'après l'Article 416, la même peine est encourue par les ouvriers qui auront prononcé des amendes, des défenses, des interdictions, ou toutes proscriptions sous le nom de damnations, et sous quelque qualification que ce puisse être, soit contre les directeurs d'ateliers et entrepreneurs d'ouvrages, soit les uns contre les autres. Dans l'un ou l'autre des cas prévus par les Articles 415 et 416, les chefs ou moteurs sont punis d'un emprisonnement de deux à cinq ans. Ils peuvent, de plus, après l'expiration de leur peine, être mis sous la surveillance de la haute police pendant deux ans au moins et cinq ans au plus.

La Chambre de Commerce de Mons ayant, dans le courant de 1859, demandé la réforme de la législation relative aux délits de coalition, le Gouvernement fit ouvrir une enquête dans laquelle furent entendues les Chambres de Commerce. La majorité de ces colléges se prononça pour l'abrogation de cette législation. Trois Chambres seulement se montrèrent favorables à son maintien. Dans le sein

d'une dernière Chambre, les opinions divergentes ayant rencontré un nombre égal de voix, il n'y a pas eu de décision dans un sens ni dans l'autre.

Consulté par le Gouvernement sur la question des coalitions, le Conseil Supérieur de l'Industrie et du Commerce a émis l'avis qu'il y avait lieu d'abroger les Articles 414, 415, et 416 du Code Pénal, et de ne comminer des pénalités que contre les coalitions qui sont accompagnées de violences ou d'autres infractions, qui sont faites contrairement à des contrats, ou qui tendent à porter atteinte à la liberté du travail.

On ne peut se dissimuler, en effet, que, dans ses Articles précités, la Loi Pénale n'ait confondu deux faits essentiellement distincts; la résolution concertée de ne vendre ou de n'acheter une marchandise qu'à certaines conditions, puis la contrainte exercée pour imposer cette résolution concertée à des personnes restées étrangères à la délibération. Or, le premier de ces deux faits est essentiellement licite. Le droit de propriété emporte nécessairement pour tout citoyen le droit de régler comme il l'entend le prix de son travail ou du produit de ce travail. L'exercice de ce droit, légitime pour chacun de nous isolément, ne saurait rationnellement donner lieu à un délit, par ce fait même qu'il est concerté entre plusieurs. Tel est cependant le caractère que donne à cet accord le Code Pénal; celui-ci, en traitant différemment la coalition entre les maîtres et la coalition entre les ouvriers, sanctionne une double injustice. D'une part, il réprime la coalition des ouvriers tendant à la hausse des salaires, quelque légitimes que leurs prétentions puissent être; de l'autre, il ne réprime la coalition des maîtres, tendant à la baisse des salaires, qu'autant que la coalition ait lieu injustement et abusivement. Pour les ouvriers seuls, le fait de se réunir, de s'entendre, de s'associer, est punissable, alors même qu'il n'y a pas de manifestation extérieure; les violences ne sont, dans le système de la Loi Pénale de 1840, qu'une circonstance aggravante du délit. Il n'y a évidemment pas lieu de punir ce fait; proscrire la coalition simple, le seul accord des volontés, en l'absence de tout acte qui tendrait à imposer à ceux qui n'ont point pris part à la délibération, la résolution concertée, c'est-à-dire, empêcher l'exercice du droit d'association appliqué à certains intérêts matériels, est une injustice que les représentants légaux du commerce et de l'industrie Belges voudraient, avec raison, voir

disparaître de nos Codes. Il leur a semblé, au contraire, qu'il y avait lieu de punir le fait de coalition, lorsqu'il entraine avec lui l'emploi de menaces, de violences, ou de tous autres moyens d'intimidation, ou qu'il a lieu en violation des contrats.

La Chambre des Représentants, en séance du 30 Mars, 1860, s'est prononcée pour le même système.

No. 3.

Lord Howard de Walden to Lord Stanley.—(*Received April* 10.)

My Lord, *Brussels, April* 9, 1867.

I HAVE the honour to acknowledge the receipt of your Lordship's despatch of the 3rd instant, instructing me to furnish a full report on the working of Trades Unions in Belgium, as well as all information within my reach relative to the laws affecting combination of workmen, strikes, &c.

Although the present law of Belgium places no restriction whatever upon the formation of societies amongst workmen for the protection or advancement of their interests, the working classes have not hitherto availed themselves of the right of coalition. There are no Trades' Unions or Co-operative Societies existing in Belgium.

It is only recently, however, that the law has sanctioned the right of workmen to coalesce with a view to enhance the price of labour. Until last year, all organized attempts on the part of workmen to raise the price of labour, as well as all attempts on the part of employers unduly to bring about a reduction of the rate of wages, were forbidden and punishable by the following Articles (414 and 415) of the Penal Code:—

"Art. 414. Toute coalition entre ceux qui font travailler des ouvriers, tendant à forcer injustement et abusivement l'abaissement des salaires, suivie d'une tentative ou d'un commencement d'exécution, sera punie d'un emprisonnement de six jours à un mois, et d'une amende de 200 à 3,000 francs.

"Art. 415. Toute coalition de la part des ouvriers pour faire cesser en même temps de travailler, interdire le travail dans un atelier, empêcher de s'y rendre et d'y rester avant

ou après de certaines heures, et en général pour suspendre, empêcher, enchérir les travaux, s'il y a eu tentative ou commencement d'exécution, sera puni d'un emprisonnement d'un mois au moins et de trois mois au plus.

"Les chefs ou moteurs seront punis d'un emprisonnement de deux ans à cinq ans."

The above striagent Articles of the Penal Code were repealed by a Law (a copy of which is annexed), which only came into operation on the 31st of May last.

The substance of this Law is contained in the following Article :—

"Art. 2. Sera puni d'un emprisonnement de huit jours à trois mois et d'une amende de 26 francs à 1,000 francs, ou de l'une de ces deux peines seulement, toute personne qui, dans le but de forcer la hausse ou la baisse des salaires, ou de porter atteinte au libre exercice de l'industrie ou du travail, aura commis des violences, proféré des injures ou des menaces, prononcé des amendes, des défenses, des interdictions ou toute proscription quelconque, soit contre ceux qui travaillent, soit contre ceux qui font travailler.

"Il en sera de même de tous ceux qui par des rassemblements près des établissements où s'exerce le travail, ou près de la demeure de ceux qui le dirigent, auront porté atteinte à la liberté des maîtres et des ouvriers."

The new law, it will be seen, does away altogether with the invidious distinction drawn by the Penal Code between combinations of employers and combinations of workmen, and removes all legal impediments to the full exercise of the right of coalition by either employers or workmen. The penalties imposed under this law are solely directed against attempts to fetter or control the liberty of others by means of intimidation or by actual violence.

There are a few associations in Belgium of the nature of benefit societies, for the relief of their members in case of sickness and old age, but these cannot be established without the permission of the Government, and without having submitted their proposed statutes for official sanction. The Burgomaster, or a member of the municipal Council of the place which may be the seat of the association, has a right to assist at the meetings, and every year the association is required to render to the Municipal Council an account of its receipts and expenditure during the preceding year.

In cases of dispute between masters and operatives, the Council of Prud'hommes often renders valuable services in a conciliatory sense. This institution seems to be well received, and to work well.

Your Lordships will find a copy of the laws under which these Councils are established, and their attributes defined, and which derive their origin from the "Code Napoléon," in page 29 of the work entitled "Code Industriel."* In page 232 of that work your Lordship will find copies of the laws under which are organized the "Sociétés de Secours Mutuels."

In respect to the names of persons competent to give information on the above subjects, I shall mention M. Warocque, coal-mine proprietor at Marimort; M. Dorlodot, ironmaster, near Charleroy; and M. Fortamps, Governor of the Bank.

I have, &c.

(Signed) HOWARD DE WALDEN AND SEAFORD.

Inclosure in No. 3.

Extract from the "Moniteur Belge" of June 11, 1866.

Ministère de la Justice.

Loi portant des Peines contre les Infractions relative à l'Industrie, au Commerce et aux Enchères Publiques, et abrogeant les Articles 412 *à* 420 *du Code Pénal.*

Leopold II, Roi des Belges, à tous présents et à venir, salut.

Les Chambres ont adopté et nous sanctionnons ce qui suit:

Article 1. Celui qui aura méchamment ou frauduleusement communiqué des secrets de la fabrique dans laquelle il a été ou est encore employé, sera puni d'un emprisonnement de trois mois à trois ans et d'une amende de 50 francs à 2,000 francs.

Art. 2. Sera puni d'un emprisonnement de huit jours

* "Code Industriel, ou Recueil des Lois et Dispositions concernant l'Exercice de l'Industrie, suivi d'un Formulaire:" Brussels, Bruylant-Christophe et Cie., Editeurs, Place Saint-Jean, 12. 1857.

à trois mois et d'une amende de 26 francs à 1,000 francs, ou de l'une de ces deux peines seulement, toute personne qui, dans le but de forcer la hausse ou la baisse des salaires, ou de porter atteinte au libre exercice de l'industrie ou du travail, aura commis des violences, proféré des injures ou des menaces, prononcé des amendes, des défenses, des interdictions ou toute proscription quelconque, soit contre ceux qui travaillent, soit contre ceux qui font travailler.

Il en sera de même de tous ceux qui, par des rassemblements près des établissements où s'exerce le travail, ou près de la demeure de ceux qui le dirigent, auront porté atteinte à la liberté des maîtres et des ouvriers.

Art. 3. Tous ceux qui, par des moyens frauduleux quelconques, auront opéré la hausse ou la baisse du prix des denrées ou marchandises ou des papiers et effets publics, seront punis d'un emprisonnement d'un mois à deux ans et d'une amende de 300 francs à 10,000 francs.

Art. 4. Tout commandant des divisions militaires, des provinces ou des places et villes, tout gouverneur ou commissaire d'arrondissement, qui aura, dans l'étendue des lieux où il a le droit d'exercer son autorité, pratiqué de pareilles manœuvres ou qui y aura participé, soit ouvertement, soit par des actes simulés ou par interposition de personnes, encourra, indépendamment des peines prononcées par l'Article précédent, l'interdiction des droits énoncés aux trois premiers numéros de l'Article 42 du Code Pénal de 1810.

Art. 5. Ceux qui, par attroupement et par violences ou menaces, auront troublé l'ordre public dans les marchés ou les halles aux grains, avec le dessein de provoquer le pillage ou seulement de forcer les vendeurs à se dessaisir de leurs denrées à un prix inférieur à celui qui résulterait de la libre concurrence, seront punis d'un emprisonnement de trois mois à deux ans.

Les chefs ou moteurs seront punis d'un emprisonnement de six mois à trois ans et placés sous la surveillance spéciale de la police pendant cinq ans au moins et dix ans au plus.

Art. 6. Les personnes qui, dans les adjudications de la propriété, de l'usufruit ou de la location des choses mobilières ou immobilières, d'une entreprise, d'une fourniture, d'une exploitation ou d'un service quelconque, auront entravé ou troublé la liberté des enchères ou des soumissions,

par violences ou par menaces, soit avant, soit pendant les enchères ou les soumissions, seront punies d'un emprisonnement de quinze jours à six mois et d'une amende de 100 francs à 3,000 francs.

Art. 7. Les Articles 412 à 420 du Code Pénal de 1810 sont abrogés.

Promulguons la présente loi, ordonnons qu'elle soit revêtue du sceau de l'Etat et publiée par la voie du "Moniteur."

Donné à Bruxelles, le 31 Mai, 1866.

(Signé) LEOPOLD.

Par le Roi:

Le Ministre de la Justice,

(Signé) JULES BARA.

Scellé du sceau de l'Etat:

Le Ministre de la Justice,

(Signé) JULES BARA.

No. 4.

Mr. Fane to Lord Stanley, March 31, 1867.

[See page 42.]

No. 5.

Earl Cowley to Lord Stanley, April 23, 1867.

[See page 58.]

No. 6.

Sir A. Buchanan to Lord Stanley.—(Received April 15.)

My Lord, *St. Petersburgh, April* 10, 1867.

WITH reference to your Lordship's despatch of the 3rd instant, on the subject of Trades Unions, I have the honour to inform you that no combinations of workmen exist in this country for the purpose of regulating the price of labour employed for mining or manufacturing purposes.

Where, however, the property of the emancipated peasantry is held by the Commune, and not by each peasant as a freehold,—a system existing in many parts of Russia, and which Mr. Miliatine and his party were anxious to introduce into all the provinces of the Empire, the great proprietors complain that both rents and the

price of labour are dependent upon the will of the majority of the Communes, and that individual peasants dare neither farm lands nor work for landlords except on terms prescribed by the Commune, which in the case of rents are so low, and in that of labour so high, that large tracts have in consequence been allowed to go out of cultivation. I am assured, however, that this evil is not yet so general as to have been brought officially before the notice of the Government.

I have, &c.
(Signed) ANDREW BUCHANAN.

No. 7.

Mr. Ward to Lord Stanley.—(Received April .)

My Lord, *The Hague, April* 26, 1867.

I DULY communicated to Count de Zuylen de Nyevelt your Lordship's despatch of the 3rd instant, and have now the honour to transmit a copy of his Excellency's reply, together with copies and translations of the several documents therein referred to.

Your Lordship will observe that, with the exception of the Law of April 22, 1855, there would appear to have been no legislation in this country on the subject of combinations of workmen, trades unions, &c., supplemental to that contained in the "Code Napoléon," which is still the statute law of the Netherlands. I may add, however, that Mr. Thurlow is engaged in collecting materials for a report on this subject, but that, owing to the indisposition of the working classes of this country to combine for social or trade purposes, it is little likely that the materials he may be enabled to collect will throw much additional light on the working of such societies or the laws by which they are controlled.

I have, &c.
(Signed) WILLIAM R. WARD.

Inclosure 1 in No. 7.

Count Zuylen de Nyevel to Mr. Ward.

La Haye, le 24 *Avril* 1867.

LE Soussigné, &c., a l'honneur de porter à la connaissance de M. Ward, &c., en réponse à sa note du 8 de ce mois, qu'indépendamment du droit commun, les asso-

ciations d'ouvriers sont encore régies dans les Pays-Bas par les Articles 415 and 416 du Code Pénal (modifiés en France par la Loi du 25 Mai, 1864). La liberté du droit de réunion et d'association, assurée à tous les citoyens par l'Article 10 de la Constitution et l'Article 1 de la Loi du 22 Avril, 1855 (Journal Officiel, No. 32), s'applique du reste, sans restrictions et sans dispositions préventives, aussi aux ouvriers. Ce n'est que quand une réunion de ce genre est déjà établie que l'autorité compétente peut rechercher jusqu'à quel point la participation à ses travaux peut être permissible, soit en vertu des dispositions générales des Articles 2 à 4 de la loi précitée, soit en vertu des Articles prérappelés du Code Pénal. Quant à la personnification civile et à l'obtention des droits de corporations, les associations d'ouvriers sont soumises aux règles générales des Articles 5 et suivants de la Loi de 1855 et des Articles 1691 et suivants du Code Civile. C'est par ce motif que le Gouvernement ne connait officiellement de ces associations que celles qui usent de la faculté qu'elles ont de demander à être reconnues. Cette demande n'a été faite du reste que par quelques associations ayant pour objet l'amélioration matérielle ou morale du sort des ouvriers en général, ou d'une espèce d'ouvriers en particulier. En ce qui concerne les associations commerciales ("trades unions"), celles-ci sont régies par les dispositions du Code de Commerce Néerlandais relatives aux sociétés (livre I, titre 3), aux sociétés d'assurance mutuelle (Article 286), et aux armateurs (livre II, titre 2). De toutes ces espèces de sociétés, la société anonyme est seule soumise à une surveillance préventive (Article 36).

Le Soussigné, &c.

(Signé) ZUYLEN DE NYEVELT.

Inclosure 2 in No. 7.

Articles 415 *and* 416 *of "Code Napoléon" (Penal).*

Article 415. Toute coalition de la part des ouvriers pour faire cesser en même temps de travailler, interdire le travail dans un atelier, empêcher de s'y rendre et d'y rester avant ou après de certaines heures, et en général pour suspendre, empêcher, enchérir les travaux, s'il y a eu tentative ou commencement d'exécution, sera puni d'un emprisonnement d'un mois au moins et de trois mois au plus.

Les chefs ou moteurs seront punis d'un emprisonnement de deux ans à cinq ans.

Art. 416. Seront aussi punis de la peine portée par l'Article précédent et d'après les mêmes distinctions, les ouvriers qui auront prononcé des amendes, des défenses, des interdictions, ou toutes proscriptions sous le nom de damnations et sous quelque qualification que ce puisse être, soit contre les directeurs d'ateliers et entrepreneurs d'ouvrage, soit les uns contre les autres.

Dans le cas du présent Article et dans celui du précédent, les chefs ou moteurs du délit pourront, après l'expiration de leur peine, être mis sous la surveillance de la haute police pendant deux ans au moins et cinq ans au plus.

Inclosure 3 in No. 7.

Article 10 *of the "Constitution" of the Kingdom of the Netherlands.*

Les habitants ont le droit de s'associer et de s'assembler.

La loi régle et limite l'exercice de ce droit dans l'intérêt de l'ordre public.

Inclosure 4 in No. 7.

Articles 1, 2, 3, 4, 5, 6, *and* 7 *of the Law of April* 22, 1855.

(Translation.)

Article 1. For the establishment of an association no authorization is necessary.

Art. 2. Associations contrary to public order are forbidden.

Art. 3. Every association is held to be contrary to public order which has for its object—

1. Disobedience to or violation of a lawful regulation.

2. Attacking or corrupting public morals or good manners.

3. Disturbance of the exercise of justice in any way.

Art. 4. Taking part in a forbidden association, even if it is not specially prohibited in the Penal Code, will be punished in the case of "chefs" or "moteurs," with imprisonment from one to six months, and a fine of from 50 to 200 guilders (one or other or both of these punishments); and in the case of the rest of the associates, with imprisonment of from three days to two months, and a fine

of from 5 to 100 guilders (one or other or both of these punishments).

Art. 5. No association, except such as is established by the Constitution or other laws, can be regarded as a legally constituted body, unless acknowledged by special law or our recognition.

All associations established for an unlimited time, or for more than thirty years, which desire to be regarded as legally constituted bodies, require an acknowledgment by law.

Such associations as are established for a period less than thirty years may be recognised by us.

Art. 6. The recognition takes place by approval of the statutes or regulations of the association.

The statutes or regulations include the object, the principles, the operation, and the general scope and rules of the association.

Art. 7. Recognition will only be denied by us on grounds of public utility, interest, or advantage.

Refusal of recognition will be accompanied by the reasons for such decision.

Inclosure 5 in No. 7.

Articles 1691, 1692, *and* 1693 *of "Code Napoléon" (Penal).*

(Translation.)

Article 1691. All legally constituted bodies are, even as private individuals, qualified to perform the acts of citizens, bound to keep public order, and to submit themselves to the duties and formalities of a citizen.

Art. 1692. The "chefs" or "moteurs" of a corporate body are, provided nothing to the contrary is declared in the statutes to such society, empowered to act and perform in the name of that society, and are competent to sue and liable to be sued.

Art. 1693. All actions which the "chefs" or "moteurs" are competent to perform bind the corporate body in its individual capacity.

Inclosure 6 in No. 7.

Extracts from the "Code de Commerce du Royaume des Pays Bas."

LIVRE I.—*Du Commerce en Général.*

TITRE III.—*Des Sociétés de Commerce.*

Section 1.—*Dispositions Générales.*

14. LA loi reconnaît trois espèces de sociétés commerciales :—

La société en nom collectif;

La société par forme de versement d'argent, nommée aussi société en commandite ;

La société anonyme.

15. Les contrats des sociétés commerciales se règlent par les conventions des parties, par les lois particulières du commerce et par le droit civil.

Section 2.—*De la Société en nom Collectif et de la Société en Commandite.*

16. La société en nom collectif est celle que contractent deux ou plusieurs personnes, et qui a pour objet de faire le commerce sous une raison sociale.

17. Chaque associé, qui n'en est pas exclu, a le droit d'agir au nom de la société, de recevoir et de payer pour elle, d'obliger la société envers des tiers, et réciproquement des tiers envers la société.

Cette disposition n'est pas applicable aux transactions étrangères aux affaires de la société, ni à celles qui sont interdites aux associés par le contrat.

18. Dans les sociétés en nom collectif, chaque associé est obligé solidairement pour les engagements de la société.

19. La société par versement d'argent ou en commandite se contracte entre une personne ou entre plusieurs associés responsables et solidaires, et une ou plusieurs autres personnes comme bailleurs de fonds.

Une société peut être ainsi à la fois société en nom collectif, à l'égard des associés en nom collectif, et société en commandite à l'égard du bailleur de fonds.

20. Sauf l'exception du second alinéa de l'Article 30, le nom d'un associé commanditaire ne peut faire partie de la raison sociale.

Cet associé ne peut faire aucun acte de gestion, ni travailler dans les affaires de la société, pas même en vertu d'une procuration.

Il n'est passible des pertes que jusqu'à concurrence des fonds qu'il a mis ou dû mettre dans la société, sans qu'il soit jamais tenu de rendre les profits dont il a joui.

21. En cas de contravention aux dispositions des premier et deuxième alinéa du précédent Article, l'associé commanditaire est obligé solidairement pour toutes les dettes et tous les engagements de la société.

22. Les sociétés en nom collectif doivent être formées par acte authentique ou sous seing-privé, sans que l'omission d'un acte puisse être opposée à des tiers.

23. Les associés en nom collectif sont tenus de faire inscrire l'acte sur les registres à ce destinés au greffe du tribunal d'arrondissement, dans le lieu ou les lieux où la société est établie, ou, à defaut de tribunal d'arrondissement, au greffe du juge de canton.

24. Cependant les associés en nom collectif sont libres de faire inscrire l'acte par extrait seulement, pourvu que cet extrait soit rédigé en forme authentique ou signé par tous les associés.

25. Toute personne peut prendre connaissance de l'acte inscrit ou de ses extraits, et en obtenir copie à ses frais.

26. L'extrait mentionné dans l'Article 24 doit contenir:—

(1.) Les noms, prénoms, professions, et domiciles des associés en nom collectif;

(2.) La raison sociale, avec mention si la société est générale, ou bien si elle se borne à une branche spéciale du commerce, et dans ce dernier cas avec désignation de cette branche spéciale;

(3.) L'indication des associés qui sont exclus de la faculté d'employer la raison sociale;

(4.) L'époque où la société commence et celle où elle finira;

(5.) Et, en général, toutes les parties du contrat qui doivent servir à déterminer les droits des tiers envers les associés.

27. L'inscription devra être datée du jour auquel l'acte ou l'extrait aura été remis au greffe.

28. Les associés sont tenus en outre de faire publier

un extrait de l'acte, selon la disposition de l'Article 26, tant dans le journal officiel que dans un journal du lieu ou des lieux où la société est établie, et à défaut d'un tel journal dans celui d'un lieu voisin.

29. Tant que cette inscription et la publication n'ont pas eu lieu, la société en nom collectif sera considérée à l'égard des tiers, comme générale pour toute affaire de commerce, comme contractée pour un tems illimité, et n'excluant aucun des associés du droit de gérer et de signer pour la raison sociale.

S'il existe une différence entre ce qui est inscrit et ce qui est publié, les dispositions qui auront été publiées dans le journal officiel et les papiers publics, aux termes de l'Article précédent, auront seules effet contre des tiers.

30. La raison sociale d'une société dissoute pourra, soit en vertu de la Convention, soit du consentement formel de l'ex-associé dont le nom faisait partie de la raison sociale, ou, en cas de décès, si les héritiers du défunt ne s'y opposent, être continuée par une ou plusieurs personnes, lesquelles doivent constater cette circonstance par un Acte qui sera inscrit et publié dans la forme prescrite par l'Article 23 et suivants, et sous la peine énoncée dans l'Article 29.

La disposition du premier alinéa de l'Article 20 n'est pas applicable au cas où l'associé sortant, d'associé en nom collectif, est devenue associé commanditaire.

31. La dissolution d'une société en nom collectif avant l'époque déterminée par le contrat, ou occasionnée par cession ou renonciation, sa continuation après l'expiration du terme fixé, ainsi que tous changements faits au contrat primitif qui concernent des tiers, sont soumis aux susdites inscription et publication dans les papiers publics.

Si cette annonce n'a pas eu lieu, la dissolution, la cession, la renonciation ou le changement ne pourront avoir d'effet contre des tiers.

Si l'on a négligé l'inscription et la publication en cas de continuation de la société, les dispositions de l'Article 29 sont applicables.

32. Lors de la dissolution d'une société, les associés qui avaient le droit d'en gérer les affaires, devront en opérer la liquidation, au nom de la même raison, à moins qu'il n'y ait stipulation contraire dans le contrat, ou que les associés (non compris les commanditaires) ne nomment ensemble, par tête et à la pluralité des voix, un autre liquidateur.

S'il y a partage de voix, le tribunal d'arrondissement

disposera selon ce qu'il estimera le plus profitable à la société dissoute.

33. Si l'état de la caisse de la société dissoute ne suffit pas pour payer les dettes exigibles, ceux qui sont chargés de la liquidation feront un appel des fonds nécessaires, que chaque associé devra fournir pour sa part dans la société.

34. Les fonds dont la caisse de la société pourra se passer pendant la liquidation seront provisoirement partagés.

35. Après la liquidation et la dissolution, et à défaut de stipulation à ce sujet, les registres et documents ayant appartenu à la société dissoute, resteront déposés chez l'associé nommé à cet effet à la pluralité des voix, ou, en cas de partage, par le Juge de l'arrondissement, à la charge d'en laisser le libre accès aux associés ou à leurs ayants droit.

* * * * *

286. Les sociétés d'assurance mutuelle sont régis par leurs conventions et réglements, et en cas d'insuffisance, par les principes du droit. La prohibition mentionnée au dernier alinéa de l'Article 289 s'applique spécialement aussi à ces sortes de sociétés.

* * * * *

Livre II.—*Des Droits et Obligations qui résultent de la Navigation.*

Titre II.—*Des Propriétaires, co-Propriétaires et Directeurs* (Boekhouders) *de Navires.*

320. Si deux ou plusieurs personnes, ayant des droits de propriété sur le même navire, en font usage en commun, il se forme une association dont les intérêts sont réglés entre les propriétaires du navire, à la pluralité des suffrages, en proportion de la part de chacun d'eux.

La plus petite part est comptée pour une voix, et le nombre de voix de chacun est fixé par la multiplication de la plus petite part.

321. Le propriétaire ou les co-propriétaires d'un navire, chacun en proportion de sa part, sont civilement responsables des faits et obligations du capitaine, pour tout ce qui est relatif au navire et à l'entreprise.

Cette responsabilité cesse par l'abandon du navire et

du fret gagné ou à percevoir pour l'entreprise, à laquelle se rapportent les faits et obligations.

Cet abandon se fait par un acte devant notaire.

Chaque co-propriétaire est libéré de sa responsabilité par l'abandon de sa part, dans la forme ci-dessus mentionnée.

Si le propriétaire ou les co-propriétaires ont fait assurer leur intérêt dans le navire ou dans le fret, leur recours contre l'assureur n'est pas compris dans cet abandon.

322. Tout propriétaire ou co-propriétaire d'un navire est néanmoins personnellement responsable, en proportion de sa part, pour les frais de radoub du navire et autres faits par son ordre particulier ou par ordre de l'association.

323. Chaque co-propriétaire est tenu de contribuer à l'équipement du navire, en proportion de sa part, laquelle en répond.

324. Si un navire se trouve dans un port de relâche pour être radoubé, et que la majorité des co-propriétaires consente au radoub, la minorité est tenue d'y accéder ou de renoncer à ses parts en faveur de la majorité, qui est tenue de les accepter, moyennant la valeur estimée par experts.

325. Si la majorité des propriétaires se détermine à la dissolution de l'association et de la vente du navire, la minorité y est obligé. La vente doit être publique à moins que les propriétaires en soient convenus autrement à l'unanimité.

Cependant nulle association ne peut être dissoute durant un voyage entrepris.

326. Nul autre qu'un co-propriétaire ne peut être nommé directeur de l'association, si ce n'est du consentement unanime de tous les propriétaires.

Le directeur est révocable à volonté.

327. Le directeur représente tous les associés, et peut agir en leur nom, tant en justice qu'extrajudiciairement, en tant que cette faculté n'a pas été restreinte par le présent code ou par des conditions particulières expressément insérées au contrat d'association.

328. Il engage le capitaine et le congédie à volonté.

Si le capitaine a reçu son congé pour une cause légitime, il n'a aucun droit à une indemnité.

S'il a reçu son congé sans cause légitime, avant le commencement du voyage, il a droit aux journées durant le

temps de son service ; mais s'il a reçu son congé pendant le voyage, son loyer entier lui est dû avec les frais de retour, le tout à moins qu'il n'y ait convention contraire par écrit.

Les mêmes dispositions sont applicables au propriétaire et à l'association du navire.

329. Si le capitaine congédie est co-propriétaire du navire, il peut renoncer à la co-propriété, et exiger le remboursement de la valeur de sa part, qui sera déterminée par des experts.

330. Le directeur a la direction entière de tout ce qu'exigent l'entretien, l'équipement, l'avitaillement et l'affrètement du navire.

331. Pour chaque nouveau voyage et pour chaque nouvel affrètement, le directeur a besoin du consentement des co-propriétaires ou de la majorité, à moins qu'un pouvoir plus étendu à cet égard ne lui soit accordé par le contrat d'association.

332. Il est responsable envers les co-propriétaires de tous les frais, dommages, et intérêts qu'ils éprouvent par sa faute ou son infidélité. Sa part dans le navire y est affectée par préférence.

333. Le directeur ne peut faire assurer le navire sans l'autorisation expresse de tous les co-propriétaires.

334. Il est tenu de faire assurer les frais du radoub fait pendant le voyage, à moins que le capitaine n'ait emprunté à la grosse pour le montant des frais du radoub.

335. Il oblige par ses faits et obligations tous les co-propriétaires, en proportion de leurs parts ; mais ceux-ci peuvent aliéner leur part dans le navire et le fret déjà gagné ou à percevoir pour l'expédition à laquelle les faits ont rapport, dans la forme prescrite par l'Article 321, sans être tenu à quelque chose de plus

336. Tous les co-propriétaires sont personnellement obligés, en proportion de leur part, pour les réparations ou autres frais ordonnés par le directeur, s'il en a été spécialement chargé, ou s'il en a averti l'association.

Les expressions générales de contrat d'association ne sont pas considérées comme un mandat particulier ni comme un avertissement.

337. Le directeur est tenu de donner à chaque co-propriétaire, sur sa demande, des renseignements et ouvertures en ce qui concerne le navire, le voyage, et l'équipe-

ment, et de représenter tous les registres, lettres, et documents, ainsi que tout ce qui est relatif à sa gestion.

338. Il est tenu, après chaque voyage, de rendre compte de sa gestion aux co-propriétaires et à chacun d'eux, sur sa demande, tant pour ce qui concerne l'état général du navire et de l'association, qu'à l'égard du voyage fini, en leur représentant tous les documents à l'appui y relatifs. Il est obligé de leur payer de suite la solde qui leur revient.

339. Chaque co-propriétaire est tenu d'ouïr et de clore les comptes du directeur, et de payer au directeur sa quote-part dans la solde qui pourrait lui revenir.

340. L'approbation des comptes du directeur, donnée par la majorité, n'empêche pas la minorité de faire valoir ses droits.

* * * * *

Section 3.—*De la Société de Commerce Anonyme.*

36. La société anonyme n'a pas de raison sociale ; elle n'est pas désignée par le nom d'un ou de plusieurs des associés, mais elle est seulement qualifiée par l'objet de son entreprise commerciale.

Avant de pouvoir l'établir, l'acte constitutif ou son projet doit être envoyé au Roi, afin d'obtenir son autorisation.

La même autorisation royale est requise pour chaque changement dans les conditions, et pour la continuation de la société.

No. 8.

Mr. Ford to Lord Stanley.—(*Received April* 29.)

My Lord, *Copenhagen, April* 25, 1867.

In reply to your Lordship's despatch of the 3rd instant, instructing me to report on the working of Trades Unions which may exist in Denmark, I have the honour to inform your Lordship that no such Unions are met with in this country.

Associations of workmen are formed, the sole object of which is to raise funds for the relief of the sick and infirm

members, and for the payment of the burial expenses of those who die.

Strikes amongst the workmen for higher wages are of very unusual occurrence in Denmark.

The only instance of one that has come to my knowledge, took place last year on the part of the carpenters and bricklayers of this city, who struck for a daily increase of 4*d.* wages, to which demand the masters refused to accede. At the expiration of six weeks the private resources of the men were exhausted and they gradually returned to their occupations at their former rate of wages, and the masters subsequently, and of their own free will, conceded to them an increase of 2*d.* a day.

The present wages received by these classes of artisans in Copenhagen is 2*s.* 7*d.* daily.

I find an impression prevails amongst the masters of different trades in this city that a more general introduction of piece work, wherever applicable, would tend to prevent collisions between capital and labour.

A set of Danish laws and regulations, dated March 21, 1800, having special and entire reference to the relative position of masters and men forming part of guilds and corporations, have been annulled by a law framed December 29, 1857, and the corporations broken up.

The Danish Government, however, have issued circulars, respectively dated January 24, 1862; February 16, 1863, and February 12, 1867, in which the voluntary creation of associations amongst workmen, for useful purposes, is strongly encouraged, and rules and regulations are clearly set down for the efficient administration and control of such societies.

I have, &c.

(Signed) FRANCIS CLARE FORD.

No. 9.

Lord Bloomfield to Lord Stanley.—(*Received May* 3.)

My Lord, *Vienna, April* 30, 1867.

With reference to your Lordship's despatch of the 3rd instant, I have the honour to report that Regulations for the establishment of trades' associations are laid down in

paragraphs Nos. 107 to 130 of the Imperial Patent of 1859, copy and translation of which are herewith inclosed, and under no other conditions is their existence allowed in Austria.

Strikes are contrary to law, and are immediately put a stop to by the police, the ringleaders being liable to imprisonment for a term of from eight days to three months, according to paragraph 481 of the Penal Code, which I have the honour also to inclose herewith in copy and translation.

The superabundance of labour in Austria renders any combination by the workmen against the masters of rare occurrence. A case, however, occurred some time ago, when the workmen of the Trieste Railway (Südbahn) objected to the appointment of a particular person as foreman over them, and on their protest not being listened to, left work in a body. The police at once interfered, and the whole number were arrested and kept in prison for twenty-four hours, although their employers expressed themselves anxious only to get rid of them, and did not desire that they should be punished.

Last week there was a movement among the work-people in different manufactories in the neighbourhood of Brünn, and in one instance, where some of the men struck for an increase of wages, two of the ringleaders are reported to have been arrested.

I have not heard of any persons to whom the Royal Commissioners could apply for information on these subjects.

I have, &c.
(Signed) BLOOMFIELD.

Inclosure 1 in No. 9.

Sections 107 *to* 130 *of the Imperial Patent of December* 20, 1859.

(Traduction.)

Chapitre VII.—Associations.

§ 107. Quiconque exerce pour son propre compte dans le district d'une telle association le métier pour lequel lle existe, devient membre de l'association en entreprenant

son métier, et doit remplir les obligations qui en proviennent.

Quiconque exerce plusieurs métiers peut de cette manière faire partie de plusieurs associations en même temps.

§ 108. Les corporations déjà existantes sont tenues de réorganiser leurs statuts conformément aux dispositions de la présente loi. Leurs nouveaux statuts sont soumis à l'approbation du Gouvernement Provincial.

§ 109. Plusieurs corporations industrielles qui jusqu'à présent existaient séparément peuvent aussi être réunies dans une seule association. Il faut pour cela le commun accord ou la décision du Gouvernement Provincial, qui la rend sur la demande de l'une d'entre elles après avoir entendu l'avis de la Chambre de Commerce et d'Industrie.

§ 110. Il doit de même être établi des associations pour les industriels qui jusqu'ici n'en avaient pas.

§ 111. Le ressort territorial des associations individuelles peut en tout temps être déterminé par le Gouvernement Provincial sur l'avis de la Chambre de Commerce et d'Industrie.

§ 112. En cas de doute c'est l'autorité qui, après avoir entendu la Chambre de Commerce et d'Industrie, décide si un métier nouvellement entrepris appartient à une association, et à laquelle il appartient.

§ 113. Les compagnons et les apprentis des membres d'une association sont considérés comme faisant partie d'elle, et sont comme tels tenus d'en suivre les règles.

§ 114. Les associations ont pour but de fonder les établissements et de prendre les dispositions propres à favoriser les intérêts industriels communs.

Il leur incombe spécialement, (*a*) à entretenir des rapports réglés entre les membres de l'association, notamment leurs compagnons et apprentis (Section 113), ceux qui proviennent de l'apprentissage et du service ; (*b*) de vider les contestations y relatives (Section 102) ; (*c*) de fonder et de soutenir des écoles spéciales et de les surveiller ; (*d*) de fonder des établissements pour secourir les membres de l'association leurs compagnons et apprentis, en cas de maladie ou dans le besoin en général, et de surveiller ces établissements ; (*e*) de donner à l'autorité et à la Chambre de Commerce et d'Industrie du district les renseignements et avis demandés sur les objets de leur ressort ;

(*f*) enfin, de coopérer à toutes les mesures administratives qui ont rapport à la totalité des individus formant l'association.

§ 115. Celui qui entreprend ou exerce un métier ne peut être soumis par l'établissement d'une association à d'autres restrictions que celles prescrites par la présente loi.

§ 116. L'association est représentée et ses affaires sont gerées—

(*a.*) Par les assemblées de l'association ;

(*b.*) Par le bureau de l'association, qui se compose d'un comité sous la direction du Président.

§ 117. Les Assemblées des associations qui ne compte pas plus de cinquante membres sont formées de tous les membres qui ont le droit de voter ; s'il s'agit d'associations plus nombreuses, de délégués élus au scrutin secret pour un temps déterminé.

Dans des associations qui comprennent des métiers hétérogènes, il doit être pourvu à ce que les différents catégories de métier y soient représentées par une répartition convenable des délégués.

§ 118. L'assemblée choisit les membres du Comité et le Président.

La nomination du dernier est soumise à l'approbation de l'autorité.

La durée des fonctions des membres du Comité et du Président est ordinairement de trois ans, après l'expiration desquels ils peuvent être réélus.

§ 119. Il est reservé aux assemblées—

(*a.*) D'examiner et d'approuver les comptes rendus et les budgets, comme aussi de fixer la somme à faire rentrer par répartition ;

(*b.*) D'organiser le service des employés salariés ;

(*c.*) De disposer du fonds de l'association ;

(*d.*) De décider de la fondation et de la réorganisation des établissements pour les buts énumérés au Section 114, lit. (*c*), (*d*) ;

(*e.*) De décider d'autres cas importants à prévoir par les statuts. Le Bureau soigne les affaires courantes.

§ 120. Le droit de voter et d'être élus comme délégués et membres en comité, n'appartient qu'à ceux qui ont déjà exercé leur métier pendant trois ans consécutifs. Sont exclus du droit de voter et d'être élus ceux qui ont été condamnés pour un crime en général, pour un délit où une transgression

provenant de cupidité ou contraire à la morale publique, pour contrebande, pour grave transgression des réglements de douane, ou pour banqueroute. Pendant le temps que le titulaire d'un métier est soumis à une enquête pour un des actes sus-dessus mentionnés, ou qu'il est suspendu par l'autorité de l'exercice de son métier, il ne peut se prévaloir de son vote dans l'association ni y remplir aucune fonction.

§ 121. Pour vider des différends (section 102) le bureau de l'association est renforcé d'un nombre convenable des délégués de la catégorie des compagnons, pris parmi les individus les plus honorables et les plus intelligents, et à ce commis par l'autorité pour une durée déterminée.

§ 122. En cas de violation des règlements de l'association le bureau est autorisé à prononcer contre les membres de l'association, et contre leurs compagnons et apprentis, des peines règlementaires, telles que reprimandes et amendes jusqu'à concurrence de cinq florins.

§ 123. Les sommes nécessaires pour les besoins de l'association, en tant qu'elles ne peuvent être couvertes par les intérêts de son avoir, sont, avec l'approbation de l'autorité, réparties sur les membres de l'association et peuvent être exigées par la voie administrative.

§ 124. Si l'on fonde dans une association un établissement pour secourir les compagnons dans le besoin à l'aide de contributions communes auxquelles les titulaires des métiers et les compagnons sont obligés de prendre part, la contribution des compagnons ne peut excéder 3 pour cent du florin de leur salaire, et la contribution à fournir par les titulaires pour chacun de leurs compagnons ne doit pas excéder la moitié de la contribution de leurs compagnons.

Une influence convenable doit être assurée aux compagnons dans l'administration des établissements de cette sorte (caisses de secours).

§ 125. Pour faciliter aux patrons et aux compagnons les moyens de se trouver, il doit être tenu près de chaque association des registres accessibles à tous, et où doivent être portés ceux qui cherchent de l'ouvrage et ceux qui cherchent des ouvriers.

§ 126. S'il s'agit d'entreprises industrielles pour le compte commun et de la fondation ou de la location d'établissements industriels pour l'exploitation commune, aucun membre de l'association ne peut être forcé de participer contre son vouloir, exceptés les cas où des établissements

communs sont ordonnés par l'autorité dans l'intérêt public, par exemple, près des abattoirs.

§ 127. Des statuts spéciaux pour chaque association doivent être projetés conformément à ces principes et soumis à l'approbation de l'autorité politique.

Les statuts doivent contenir des dispositions précises sur :

(*a.*) L'étendue de l'association ;

(*b.*) Les assemblées de l'association et les affaires réservées à leur décision ;

(*c.*) L'élection des délégués pour les associations qui comptent un grand nombre de membres ;

(*d.*) La composition et l'élection du bureau de l'association et sa compétence ;

(*e.*) L'administration de l'avoir de l'association ;

(*f.*) La mode de répartition des contributions ;

(*g.*) La procédure à suivre pour vider les contestations provenant des rapports de service et d'apprentissage (sections 102 et 121) ;

(*h.*) Les amendes réglementaires à prononcer (section 122).

§ 128. Lorsqu'une caisse de secours est jointe à l'association, les statuts doivent aussi contenir les dispositions sur le montant des contributions et leur mode de perception, sur les règles à suivre pour déterminer la proportion des secours, sur les conditions d'après lesquelles le droit de secours s'acquiert et se perd, et s'il s'agit des caisses des compagnons, sur l'influence qui leur appartient sur l'administration de ces caisses.

§ 129. Les associations sont sous la surveillance de l'autorité, qui délègue de Commissaires spéciaux chargés de contrôler la légalité de leurs actes. Leurs contestations sur les affaires intérieures de la société sont exclusivement du ressort de l'administration.

Les dénominations sanctionnées par les usages du pays (communautés, corps de métier, maîtrises) peuvent être maintenues.

§ 130. Si un corps de métier actuellement existant possède un avoir, et qu'il ait fusionné avec d'autres métiers pour former une association, la propriété de l'avoir passe à la nouvelle association après l'acquittement du passif ; mais il ne se perd aucun des avantages auxquels les membres de l'ancien corps de métier existant au moment de la fusion auraient eu droit pour eux et leurs compagnons si le corps de métier avait continué.

Si le corps de métier est dissous sans passer dans une nouvelle association, l'avoir est assigné sous la même réserve à la commune dans laquelle le corps de métier avait son siége.

Inclosure 2 in No. 9.

Section 481 *of the Austrian Penal Code.*

(Translation.)

§ 481. Combinations of miners and iron-workers, mechanics, workmen of the above-mentioned employers, of apprentices, servants, or especially labourers, in order, by a general refusal to work or by other means, to extort higher daily or weekly wages, or other conditions from their employers, are misdemeanours, and the ringleaders are to be punished by from eight days to three months severe imprisonment ("verschärften arrest"); the same are also to be removed, according as they are natives or foreigners, out of the Crown lands or from the whole Empire.

No. 10.

Sir A. Paget to Lord Stanley.—(*Received May* 4.)

My Lord, *Lisbon, April* 26, 1867.

On the receipt of your Lordship's despatch of the 3rd instant, I addressed a note to the Portuguese Minister for Foreign Affairs, requesting his Excellency to be good enough to furnish me with any information which the Portuguese Government might possess relative to the working of Trades Unions in this country, and I received last night a reply from his Excellency, stating that he had referred my question to the Minister of Public Works.

From inquiries, however, which I have made in different quarters likely to be well informed on this subject, I believe I may confidently state that Trades Unions have no existence in Portugal.

I have, &c.

(Signed) A. PAGET.

No. 11.

Mr. Elliot to Lord Stanley.—(*Received June* 12.)

My Lord, *Florence, June* 3, 1867.

IN obedience to the instructions given to me by your Lordship's despatch of April 3, I have now the honour to communicate to your Lordship all the information I have been able to obtain respecting the working of the Trades Unions in Italy.

The provisions of the Italian Penal Code (which are inclosed in copy and translation), affect combinations, whether of workmen or of their employers, for the purpose of unduly raising or lowering the wages of labour.

In the latter case the offence is punishable with imprisonment for a maximum term of one month, in addition to a fine varying in amount from 100 to 3,000 francs.

In the case of operatives and labourers, on the other hand, entering into combinations for the suspension of work or for an increase of wages, the penalty is imprisonment for a period not exceeding three months.

Strikes are not frequent in Italy. Those which are recorded to have taken place in late years were in Piedmont; a strike of the carpenters and joiners of Turin in 1860, and again in 1863, for higher wages, but without success in either case; of the masons and bricklayers of Turin in 1861; of the woollen weavers at Biella, which lasted eighteen days, and was then terminated by a compromise with the masters; of the porters ("facchini") of the free port of Genoa, for the maintenance of their monopoly, in which they were successful.

At Naples, in 1861, a strike of the men in the iron foundries for increase of wages and reduction of time, terminated by a compromise at the end of a month; and some other strikes of no great importance, among the journeymen tailors, printers, and cab-drivers.

Trades Unions in Italy have not the same character as in England, and, generally speaking, it cannot be said that they are organized with a view to the regulation of the conditions of labour. I am able, indeed, to mention only one society the rules of which apply that principle—the society of compositors of Florence. Its object is declared to be to maintain a fixed scale of payments for work; and

by one of its rules the members are bound to leave any establishment where a lower rater is adopted.

One of the articles of the statutes of the General Operatives' Society of Naples, may also be noticed, as appearing to have a tendency to favour strikes.

It is to the effect that, if an entire section (representing a particular trade) is on just grounds forced to suspend work, the members of all the other sections are under the obligation of contributing to its support.

But these are quite exceptional instances of a disposition to interfere in the relations between masters and operatives.

The principal object of the associations of working men which exist in Italy, is in all cases the relief of their members in case of illness; besides which many of them have various secondary purposes, such as the support of the old and infirm, and the assistance of widows and orphans, education loans and advances the supply of articles of consumption or raw materials to members at prime cost, they also provide for funeral expenses.

I have the honour to inclose a statistical account of these societies, published by the Italian Government.*

It appears from this Report, that at the end of 1862, the number of such associations was 443, comprising 111,608 members, whose yearly contributions amounted to 1,411,392 francs.

They were divided throughout the kingdom thus :—

	No. of Societies.	No. of Members.	Annually.
			Francs.
Piedmont	175	86,971	463,188
Lombardy	83	23,865	572,238
Parma and Piarenza ..	8	2,322	39,721
Modena	24	3,892	28,990
Reggio			
Massa			
Romagna	34	10,262	74,194
Marches	19	6,359	33,989
Umbria	14	2,957	14,787
Tuscany	55	16,808	142,313
Naples	19	5,506	14,154
Sicily	8	1,718	16,298
Sardinia	4	1,048	11,514

* "Statistica del Regno d'Italia. Società di Mutuo Soccorso. Anno 1862. Per Cura del Ministro d'Agricoltura, Industria e Commercio."

The expenditure of these societies was as follows :—

	Francs.	Cents.
Management	163,667	89
Relief in illness	424,373	42
Medicines and medical advice	29,083	84
Pensions in old age	54,671	45
Assistance—Widows and Orphans	29,121	53
Sundries	87,076	81
Total	787,994	94

Of the aggregate number of 443 societies, 267 with 85,495 members admitted as associates, persons belonging to all professions, and 155 with 26,113 members, were restricted to particular trades.

Prior to the year 1848, there were in existence 66 societies, several of which were of ancient origin; between 1848 and 1860, 168 were created; and from 1860 to 1862, 209 were established.

I inclose copies of the rules of the principal societies at Turin, Milan, Florence and Naples,* and likewise copies of Reports which I have received from Her Majesty's Consuls Consuls at Turin, Milan, Genoa, Naples, and Palermo, giving particular information respecting the working men's associations within their respective districts.

* Turin :—"Regolamento del Comitato di Previdenza della Società degli Operai di Torino."

"Associazione Generale di Mutuo Soccorso ed Istruzione degli Operai di Torino. Regolamento per la Cassa dei Soci e Socie che rimangono Vedovi e gli Orfani di essi."

"Associazione Generale di Mutuo Soccorso ed Istruzione degli Operai di Torino."

"Regolamento della Cassa Particolare Mutua per una Pensione al Vecchi od Inabili al Lavoro nella Società degli Operai di Torino."

Milan :—"Regolamento dell' Associazione Generale di Mutuo Soccorso degli Operaj di Milano e Corpi Santi." Preside Onorario, Generale Giuseppe Garibaldi.

Florence :—"Società di Mutuo Soccorso fra gli Operai di Firenze. Sotto il Patronato di S. A. R. il Principe Umberto di Savoja."

"Regolamento Interno del Comune Artigiano di Firenze, Discusso ed Approvato dal Maestrato nell'Adunanza del 2 Settembre, 1866."

Naples :—"Regolamento della Società di Mutuo Soccorso ed Observanza alla Tariffa fra i Compositori Tipografi in Firenze."

"Aggiunzioni e Modifiche allo Statuto della Società Generale Operaia Napoletana degli 8 Gennaio, 1862."

A copy of a work containing an account of the benefit societies of Italy, is also inclosed.*

I have, &c.

(Signed) HENRY ELLIOT.

Inclosure 1 in No. 11.

Extract from the Italian Penal Code.

(Translation.)

385. Any combination among employers of labour for the purpose of unjustly and abusively compelling their workmen to accept a reduction of wages, or to receive commodities in whole or part payment, if such combination has been followed by some overt act in execution of it, shall be punished with imprisonment not exceeding one month, and a fine of not less than 100 or less than 3,000 francs.

386. Every combination among workmen for the purpose of suspending or impeding any work, or increasing its cost, without reasonable cause, shall be punished with three months' imprisonment whenever it has begun to be carried into effect.

387. In the cases provided for in the two preceding Articles, the chief instigators or promoters shall be punished with imprisonment for a period of not less than six months.

388. The disposition of the three preceding Articles are applicable to landlords or tenants who, without just cause, combine for the purpose of lowering or fixing at too low a rate the day wages of farm-labourers, and to farm-labourers who without just motive combine to raise their day wages.

Inclosure 2 in No. 11.

Consul Brown to Mr. Elliot.

Sir, *Genoa, April* 19, 1867.

In reply to your despatch of the 14th instant, request-requesting information on the subject of Trades Unions

* "Storia delle Società di Mutuo Soccorso d'Europa dalla loro Origine fino al Tempi nostri. Per Giantommaso Beccaria da Mondoví." Volume Primo.

and strikes, I have the honour to report that there, at present, are in Genoa about forty-seven or forty-eight of these Unions or Associations.

I inclose a list of the names and dates of foundation of thirty-one of them; those that I have not been able to put down are all of quite recent formation.

Of these Unions, but few exclude politics from the subjects of their consideration, and limit their scope to assisting the workmen when ill or out of work; the chief part of them occupy themselves more, even, with politics than with their material interests, following in this the lead of the "Società Generale."

This "Società Generale" was founded by the late F. B. Sari, avowedly for political purposes, and has considerable influence over the other Associations, being composed of the President or Delegates of them all.

As to strikes, there never has been a general one in any trade, as the Unions have neither the means nor the influence with the trades they profess to represent necessary to maintain a serious strike.

On the other hand, strikes of workmen employed by individuals are not unfrequent, but are always unsuccessful, as no simultaneous action is organized, and they therefore only conduce to the injury both of workmen and employers.

The one successful strike on record was the strike of the "Facchini" of the Porto Franco, who resisted the admission of labourers not belonging to their guild, and were allowed to carry their point through the weakness and want of decision of the municipality.

The true principles of workmen's Unions are not understood here, either by the men or their employers; and I should say that owing to the impartial working of the existing Societies, and their love of dabbling in politics, instead of attending to their material interests, they do more harm than good.

I am sorry to say that I cannot refer you to a single person whom I consider qualified to give you information both detailed and reliable on the subject; but I could collect further information myself if you thought it worth while, and could give me a little time.

I have, &c.

(Signed) M. Y. BROWN.

Inclosure 3 in No. 11.

List of Workmen's Associations or Trades' Unions in Genoa.

		Founded in
1.	Degli Operai detta "Generale"	1850
2.	Caffettieri, Lignoristi e Birrai	1856
3.	Lavoranti Vermicellai	1852
4.	Indoratori e Verniciatori	1851
5.	Falegnami, Ebanisti, Tornitori, Cassari, &c.	1852
6.	Facchini di Ponte Spinola	1851
7.	Calzolai	1851
8.	Calafatti e Maestri d'Ascia	1851
9.	Fornai	1862
10.	Cordai	1862
11.	Fabbro Ferrai e Macchinisti	1861
12.	Sarti	1852
13.	Stampatori e Litografi	1862
14.	Carpentieri	1851
15.	Scultori e Intagliatori in Legno	1862
16.	Marinai e Lavoranti nel Porto	1862
17.	Tipografi	1851
18.	Orefici, Gioiellieri, Argentieri, &c.	1863
19.	Cartai e Legatori di Libri—Lavoranti	1863
20.	Cuochi e Camerieri	1863
21.	Facchini, Ponte Reali e Mercanzia	1863
22.	Superstiti dei Mille (Associazione Fraterna d'Assistenza)	1863
23.	Parrucchieri	1851
24.	Capellai	Very ancient.
25.	Barcajuoli	1857
26.	Muratori	1851
27.	Conciatori di Pelle	1861
28.	Associazione Generale di Mutuo Soccorso	1850
29.	Commessi di Commercio e Scritturali	1851
30.	Filarmonici	1851
31.	Associazione di Mutuo Soccorso tra gl'insegnanti di ambo i Sessi	1862

Inclosure 4 in No. 11.

Mr. Bonham to Mr. Elliot.

Sir, *Naples, May* 18, 1867.

I have the honour to acknowledge the receipt of your despatch of 14th April, desiring information respecting Trades Union in this city. I herewith inclose a Memorandum giving some details on that subject.

The persons most competent to give information relative to Trades Unions combinations of workmen, &c., in this city are probably Signor Tarvasei, President of the Trades Union, Signor Dassi, Signor Rodino, and Messrs. Guffy and Co.

I have, &c.
(Signed) E. W. BONHAM.

Inclosure 5 in No. 11.

Memorandum respecting Trades Unions ("Societa Operaia").

THESE Unions have not attained any important character or development in this city.

There is one principal Trades Union in Naples, of which Giuseppe Garibaldi is perpetual honorary President, formed of several branches, each branch composed mainly of workmen of a distinct trade. In 1860 there were twenty-eight of these branch Associations, at present there are about half that number. The present President of the Trades Union is Signor Tavassi, a jeweller by trade, and a man of remarkable eloquence and some influence; though professing violent democratic opinions he is believed in reality in political feeling to have more leaning to the so-called Consorteria, or old moderate party. Not more than 2,000 working men are members of this Union, the Executive or Directing Council is composed of a President, two Vice-Presidents, and a fluctuating number of Deputies or "Console" elected by the members of the various branches. The Union does not interfere with the separate administration of the various branches, but has a general control over the whole.

The objects of the Union are stated to be mutual assistance ("mutuo soccorso"), also to improve trade, to assist working men, and to avoid strikes by endeavouring to conciliate disputes, but never to assist them by pecuniary support. A credit bank supplies small articles to those in want, anticipates payments, provides for those suffering from accidents; I am assured that the Executive Council of the Union does now attend more to its avowed objects than was the case under a former President, and that, on the whole, it works well; it may be that

Neapolitan workmen are unwilling to entrust their money to the keeping of their fellow workmen, and it is stated that cases have occurred in the Branch Associations where money subscribed has been lost; be this as it may, it is clear this Union has not any great influénce over, nor does it probably enjoy the confidence of, the majority of the working men; as above stated since 1860 twelve or fourteen of these Branch Associations have ceased to exist. The Union appears to be rather encouraged by the local Government authorities, the selection of a certain number of workmen, altogether twenty, who are to be sent at the public expense to the Paris Exhibition, with the view of studying and becoming acquainted with improvements and discoveries in various branches of arts and manufactures, has been confided to M. Tarvassi, President of this Union, a proceeding which has excited much anger and jealousy amongst those who are not members of the Union.

Strikes are very rare in Naples, the principal of which I have knowledge occurred in 1860-61, when upwards of 1,000 workmen employed in the iron foundries, of which there are here several large establishments, struck for an advance of wages, reduction of time, and other demands. This strike was brought about, as I am informed, wholly at the instigation of the Executive or directing Council of the Trades' Union, at that time just springing into existence from the Garibaldian régime, and under the direction of a President of great energy and strong democratic opinions. The result of the strike disappointed the promoters: the masters of these founderies closed their workshops and refused to hold any communication with the Executive Council of the Union: the men received little, if any, pecuniary assistance from the Union, and in about a month, unable to continue the contest, begged to be taken back. A compromise was agreed to, a days working time being reduced from eleven to ten hours; only a few of these workmen have since belonged to the Trades Union, from joining which, though not prohibited, they are discouraged by their employers. A benefit society for sickness and accidents, managed entirely by the workmen, but of the funds of which one of the masters is trustee, exists in, I believe, nearly every one of these large establishments, to which the men contribute about 1 per cent. per week of their wages.

The operatives, as well in Naples as in the large cotton

and flax spinning factories about Salerno and Avellino, are described to me as intelligent, docile, and well disposed. During the last ten years a considerable augmentation has taken place in the rates of wages, and the masters appear to entertain no apprehension of strikes or combinations.

There have also during the last few years, been strikes amongst the journeymen tailors, printers, street-sweepers, and coach and cabmen, but in no one of these cases has any combined action been brought into operation for their support, and after a short time the differences were arranged, generally by a compromise.

The most singular and most inconvenient strike was that of the coach and cabmen, who struck in consequence of an order, issued by the municipal authorities, regulating the style of dress they were to wear; on this occasion many of them were imprisoned, accused of acts of intimidation; but the inconvenience to the public was so great that, after a few days, the authorities released them on their engaging to adopt the desired dress within a fixed period; they failed to keep their engagements, but nothing more has been said on the subject.

The Executive Council of the Union is said to be constantly in communication with Trades' Unions in other cities on matters connected with the social position of working men; deputations also from the Union with banners generally take part in any procession on occasions of public ceremonial, but on the whole the Union does not possess any great power in Naples.

(Signed) EDWD. WALTER BONHAM,
Consul-General.

Naples, May 18, 1867.

Inclosure 6 in No. 11.

Consul Colnaghi to Mr. Elliot.

Sir, *Turin, April* 30, 1867.

I HAVE the honour to acknowledge the receipt of your Excellency's despatch under date of the 14th instant, requesting information respecting the working of any Trades Unions that may be established within the limits of this Consulate.

Workmen's associations exist in nearly every town in

Piedmont, especially in the manufacturing districts, but in the country towns, as in Turin, I am given to understand that these associations are in principle "benefit societies," and have but little influence on "strikes," owing in great part, no doubt, to a want of special organization, as also to the limited number of members enrolled in the separate Trades Unions.

The societies are founded under the authority of the 32nd Article of the Statute which proclaims the right of peaceful meeting; but unless, as is the case with other charitable institutions, they submit to some amount of official control, they are tolerated rather than recognized by the Government.

The benefit societies of Turin are thirty-four in number. By far the first in importance is the "Associazione Generale degli Operaji di Torino," composed of workmen of all trades, containing from 8,000 to 10,000 members, and possessing an annual revenue of over 5,000*l*. This is strictly a benefit society, and disclaims all connection with political or any other agitation. Its members are entitled to medical and pecuniary assistance in case of sickness, and to purchase, at reduced rates, bread, wine, and other articles of daily consumption at stores established by the Society. The "Societa Generale delle Operaji," a sister association, under the same management, and established on the same principles, numbers 2,000 members.

The trades societies are in general founded on religious corporations of an earlier date. Their operations are ordinarily confined to granting medical and other aid in sickness and finding employment for members out of work; but in some cases mutual instruction, not, however, carried on on a very extended scale, is included in the aim of the Society. The principal Unions of Turin are those of the "Journeymen Bakers" (which numbers 322 members), the "Cooks and Hotel Waiters," the "Journeymen Confectioners and Coffee-house Attendants," and the "Tailors."

Strikes in Piedmont have been few, and, I am told, generally unsuccessful. In 1860, the carpenters and joiners of Turin struck for higher wages; in 1861, the masons and bricklayers were out on strike; and in 1863, the carpenters and joiners struck work a second time. This latter strike lasted a month, but in neither year were the men successful.

The most importantstrike in Piedmont was that of the woollen weavers, at Biella, in 1864, for an increase of wages, promoted by a Trades Union, which had been a benefit society. Troops were immediately sent to Biella to maintain order, the chief manufacturers went to the spot in order to effect a settlement, and, after eighteen days, the men, finding that assistance which had been promised from England and France was not forthcoming, gave way, and accepted an arrangement which appears to have been satisfactory to both sides. There has been no strike since.

Most of the large employers of labour at Turin, as well as the secretaries of the different unions, would, I have reason to believe, be glad to give, if required, any information in their power on the subjects now under consideration.

With reference to the condition of Trades Unions in Lombardy I have the honour to forward to your Excellency herewith inclosed an interesting Report, which has been addressed to me by Mr. Vice-Consul Kelly.

I have, &c.

(Signed) D. E. COLNAGHI.

Inclosure 7 in No. 11.

Vice-Consul Kelly to Consul Colnaghi.

Sir, *Milan, April* 22, 1867.

The system of "Trades' Unions" and "Co-operative Societies" in Lombardy has been in active operation during the last sixty-three years, the oldest and still most accredited being that of the "Pio Instituto Topografico," of Milan, which dates as far back as 1804.

Numerous societies were formed after the liberation of the province in 1859, many of which, however, had but a short existence; others have maintained themselves more or less successfully, and, at the present moment, few trades or professions in Lombardy are without their Co-operative Societies.

The practical working of these various societies may be said to differ considerably; for, left entirely to their own resources, without Government or other intelligent advisers, the rules of many were found to be based on wrong calcu-

lations, promises were made which could not be fulfilled, and thus discredited, many lost the support they would, otherwise, have found.

In order to remedy this evil, and with a view of promoting and extending the system of Trades' Unions, the Savings' Bank, of Milan, the most accredited and popular establishment of its kind in Italy, offered in the year 1863, three premiums, one of 3,000 francs, one of 2,000 francs, and one of 1,000 francs, to such Co-operative Societies or Trades Unions of Lombardy, which should, by a precise and clear statement of their administration and working, be considered to have best attained the object for which they were established.

Twenty-two Societies responded to this generous offer.

The first prize of 3,000 francs was accorded to the "Pio Instituto Topografico," of Milan.

The second prize of 2,000 francs was accorded to the "Servants' Co-operative Society," of Milan.

The third prize of 1,000 francs was accorded to the "Workmen's Co-operative Society," of Lodi.

In the following year, 1864, the Commission increased the number of prizes to thirteen, seven of 1,000 francs, and six of 500 francs, open to every province of Italy; sixty-six Societies sent in statements, the first prize being accorded to the "Workmen's Co-operative Society," of Lodi.

Although among the twenty-eight Co-operative Societies and Trades' Unions existing in Milan, several still adhere to old and faulty rules and calculations, much improvement has taken place, and the encouragement given in so substantial a manner by the Commission above-mentioned is gradually leading to more satisfactory results.

The different Trades' Unions of Lombardy are not, in general, in a position to allow themselves the costly satisfaction of indulging in strikes, and although such instances have occurred, they very seldom take place, and would naturally, only be of short duration. The system of strikes appears, in general, foreign to the habits of the province.

Among the persons whose authority in all matters connected with Trades' Unions in Lombardy, may be considered of value, I beg to mention Professor Lurrati, of Milan, and Signor August Zucchi, Secretary of the Commission, instituted by the Milan Savings' Bank, as above-mentioned.

I have, &c.

(Signed) T. W. KELLY.

Inclosure 8 in No. 11.

Consul Goodwin to Mr. Elliot.

Sir, *Palermo, April* 19, 1867.

I HAVE had the honour to receive your despatch of the 14th instant, inquiring whether there be any Trades' Unions, combinations of workmen, strikes, &c., and who are the persons qualified to give information on the subject.

I have the honour to reply that there are neither unions, nor combinations, strikes, nor lock-outs, in Sicily, nor do I know any person qualified to give information on the subject.

I have, &c.

(Signed) J. GOODWIN.

No. 12.

Mr. Morier to Lord Stanley.—(*Received June* 14.)

My Lord, *Vienna, June* 7, 1867.

I HAVE the honour to transmit to your Lordship herewith the inclosed supplementary paper on co-operative associations in the Zollverein.

The imperfect and fragmentary state of the information which I have as yet been able to collect on the wide range of subjects contained in your Lordship's Memorandum, preludes me from attempting to give any decided opinion upon that which I apprehend to be the ultimate object of your Lordship's inquiries, viz., a comparison between the relations existing between labour and capital in the Zollverein and and those actually prevalent in Great Britain.

I shall therefore confine myself to a few general observations on the data which I have as yet collected.

Two important facts may, I think, be considered as established :—

The absence in Germany of Trades Unionism, and the remarkable development of co-operative association.

That Combination Laws directly, and the strong prerogative of the police indirectly, have largely contributed to this absence of Trades Unionism can hardly be doubted, and this would seem to be in accordance with the English

precedent, for, if I am rightly informed, it is only since the repeal of the Combination Laws in 1825, that Trades Unionism has been able to develope itself in Great Britain into a system, and to assume the proportions of a national institution. On the other hand, owing to the partial liberty of association which was introduced into Germany after the year 1848, and to the interpretation of the law of association given by the Prussian tribunals, to which reference in a former paper has been made, co-operative association, as distinct from association for so-called "trade" purposes, was allowed to develope itself comparatively unhindered.

We thus get the following general data for a comparison between the relative conditions of the labour question in Great Britain and Germany:—

Liberty of association on the part of the working classes dates back in England to the year 1825. This liberty is unlimited, and opens up a field in which the organizing genius of the nation has free scope to assume what shapes it likes.

In Germany this liberty only dates back twenty years, and is limited by combination and other laws, which practically exclude other forms of association than the co-operative.

Lastly, the idea of co-operation is a modern one, coinciding with the period at which the comparative liberty of association was first established in Germany.

With the liberty of association arose amongst the working classes the possibility of their emancipation from a mere agglomeration of dependent units to corporate and *pro tanto* independent organisms.

In Great Britain the period during which this process developed itself was antecedent to the birth of co-operation, and the school through which the working classes passed was, until a comparatively recent date, exclusively that of Trades Unionism.

In Germany, for the reasons above given, the school through which the working classes have passed in their process towards corporate organization has been exclusively that of co-operative association.

In judging, therefore, of the social and economical present, and of the probable social and economical future, of the working classes in the two countries, the difference between these two schools should be kept in view.

That this difference almost amounts to antagonism cannot, I think, be doubted.

Though Trades Unionism did not at first start upon any general principles, but rather proceeded tentatively with certain immediate and practical objects in view, it has, nevertheless, in the course of time, got to represent a very definite body of doctrine; and some of its ablest defenders especially pride themselves on this doctrine being opposed to that of economists, pointing to the results of Trades Unionism as practical refutations of the economical theory respecting the laws which determine the relations between labour and capital.

Examined in its essence the object which Trades Unionism appears to propose to itself is this: given a definite quantity of produce, the joint result of capital and labour, to obtain for labour the largest share of this produce. Hence not the maximum of production, but the maximum share in a given amount of production is the gaol towards which it strives; and, rather than miss this gaol, it logically, and in strict observance of economic laws, accepts the alternative of diminishing the total aggregate of production by limiting the supply of labour, if not as regards the actual number of labourers, at least in regard to the quantity and quality of the labour furnished by those labourers, by such means, for instance, as diminished hours of labour, fixed standards of work, &c. Thus we arrive at something which, in one sense, goes even beyond the communistic axiom, "A chacun le travail selon sa capacité, le salaire selon ses besoins," for though the second portion of the axiom is sought to be realized by equalizing as much as possible the distribution of wages, the former portion is modified by fixing a standard of capacity calculated on a medium quality of labour beyond which it is not in the interest of the many that the few should work.

As the appropriation in the shape of wages of an increasing proportion of the profits on existing capital, and not the aggregate increase of that capital, *i.e.*, of the wages fund, is the object sought to be obtained, it is the less to be wondered at that Trades Unionism should not recoil from the vast unproductive consumption, and therefore waste of capital, which results from lengthened strikes. For, admitting that the result of these strikes is permanently to raise the rate of wages, which is the hypothesis

on which they are entered into, the capital expended by the Unions is refunded to their members in the shape of these higher wages. The community at large, on the other hand, is the poorer to the extent of all the wealth unproductively consumed. It is also poorer, or, more correctly speaking, less rich, to the extent of the artificial diminution in the efficiency of labour kept up with a view to diminishing the supply of that article. As in the case of all monopolies, therefore, what the individual Unionist gains the public loses. Whether this is compensated for by the increased well-being of the large, though still select, body of workmen who compose the Unions, whether the comparative case of the majority of the Unionists is not paid for too dearly by the restricted liberty and the impeded energy of the minority, and to what extent the whole labouring class, including non-unionists, is affected by the slower rate of increase in the aggregate wages fund which must be the necessary result of Trades Unionism are not questions with which I am concerned. All that I wish to call attention to is the fact that Trades Unionism contemplates capital as something to a certain extent antagonistic to labour, and that it repudiates the principle of harmony between the two which it is the boast of the economists that they have established, considering the interests of the one as opposed to those of the other, and the natural relation between the two as a contest between the capitalist and the labourer to secure the largest proportion of the wealth produced by both conjointly.

Exactly the reverse of this is the object proposed by co-operation, by co-operation at least as preached and practised in Germany. Accepting all the tenets of the economic faith, and loudly proclaiming the harmony and solidarity between labour and capital, it aims at the maximum of production, at the indefinite increase of the wages fund, and at the distribution of the wealth produced in the ratio of the risks incurred and the labour done. Utmost economy and utmost efficiency of labour, the immediate capitalizing and productive application of every farthing saved out of their wages by the labouring classes, and the direct application and administration by these classes of capital borrowed by them under the heavy risk attendant on unlimited liability: such are the aims of co-operative associations in Germany. To teach to small republics of workmen the habits of thought and the rules of business of

capitalists, and to educate them corporatively to handle capital, and thus to become sharers individually in the profits on capital, such has been the object striven for by M. Schultze-Delitzsch.

That the education obtained in two such different schools should permanently affect the social and economical status of the working classes in the two countries appears probable. On the other hand, as elements likely to modify this general conclusion, there should be borne in mind that productive co-operation has developed in England, and is likely to continue its development, in a higher degree than it has done in Germany; and, on the other hand, that not sufficient time has elapsed to judge of the results which may arise in Germany from the repeal of the Combination Laws.

I am, however, strongly inclined to the opinion that the general diffusion of the co-operative spirit in Germany, with the mania for saving and the productive application of these savings which it engenders, and the creation throughout the length and breadth of the land of channels ever ready to drain into productive reservoirs the saving thus effected, will tend to prevent the development of a system the first stages of which must necessarily be accompanied by unproductive expenditure, and all the pinching and sacrifice of saving without the prospect of incoming dividends.

I have, &c.
(Signed) R. B. D. MORIER.

Inclosure in No. 12.

Additional Paper on Co-operative Associations in the Zollverein.

Besides the Loan and Credit Unions described in the foregoing paper, the following kinds of Associations form part of the general Co-operative Union, send delegates to the annual Co-operative Congress, and are registered at the Central Co-operative Bureau:—

1. Raw Material Unions;
2. Magazine Unions;
3. Unions for the production and sale of finished wares on a common account (Productive Associations);

4. Unions for the purchase of the necessaries of life wholesale, and the selling them retail (Co-operative Stores).

In regard to all of these, as reference to the Prussian law on Co-operative Associations given in my former paper will show, the principle of unlimited liability is in force.

The first two categories in the above list are those which, next to the Credit Unions, have had the largest development in Germany.

The object of the Raw Material Unions is to buy the raw material required by the members of the Association in their several trades at wholesale prices, and to retail them to the members under the ruling retail price.

The object of the Magazine Unions is to sell in a common magazine the wares produced by the members of the Association.

In many instances the two kinds of Union are combined in one, the same staff being employed to buy the raw materials and retail them to the members, and to sell the finished products.

The rules laid down by M. Schulze-Delitzsch in regard to the Raw Material Unions are the following:—

1. The capital required to buy the raw materials is raised under the joint liability of the members of the Association, or the goods themselves are obtained on the joint credit of the members.

2. From 4 to 8 per cent. over the cost price is charged to the members who buy out of the common store. Out of this profit are defrayed interest on capital and costs of administration, the remainder being divided amongst the members proportionately to the amount each has expended in buying from the store.

3. These dividends, however, as in the case of the Credit Unions, are retained until the formation of a share in the business towards which the members contribute, besides a small monthly subscription.

4. The Storekeeper, Cashier, and Comptroller are paid by a "tantième," which varies from 2 to 3 per cent. on the business done.

Only a comparatively small proportion of the Raw Material Associations have furnished their statistics to the Central Bureau; but from the data in his possession, M. Schulze-Delitzsch calculates in his Report for 1865, that the numbers must amount to about 180, with about 10,000 members doing business to the amount of

from 1,750,000 to 2,000,000 thalers annually, with a share capital of about 400,000 thalers. They are principally in the shoemaking, carpentering, and tailoring trades.

The Magazine Unions, M. Schulze-Delitzsch reckons, at about 50, comprizing about 1,000 members, and doing business to the amount of about 500,000 thalers annually.

The third category, "Unions for the production and sale of finished wares on a common account," represents the class of associations in which, as yet, the greatest number of failures have to be recorded, but the ultimate development of which M. Schulze-Delitzsch looks to as the crowning work of co-operation and the true solution of the problem how to reconcile the interests of labour with those of capital.

The co-operative associations which have as yet been treated of, the credit unions included, mainly supply the wants of the handicraft classes, the producers in detail, *la petite industrie*, and, though owing to the lesser development which manufacturing industry has taken in Germany when compared with England, the handicraft classes are a proportionately more important element of the entire working class there than with us; yet, taking the future into account, M. Schulze-Delitzsch has not ceased to insist upon the point of real importance being the application of the co-operative principle to manufacturing industry; he has, however, insisted not less strongly on the necessity of considering this as an ultimate gaol to be approached gradually and not to be reached before the co-operative education of the industrial classes has been carried to a high degree of perfection in the other and less complicated branches of co-operation. Two antecedent conditions must be fulfilled before a productive association can be started with the prospect of success—a sufficient capital must have been saved and a thorough knowledge of the management of business, as distinct from technical knowledge, must have been acquired. Hence, both in the general advice inculcated in his yearly Reports, and his other publications, and in the cases individually submitted to him as "Counsel" of the United Co-operative Associations, he has urged the necessity of delaying the attempt at founding productive associations until these conditions were fulfilled, which has led to his being very unjustly accused by Lassalle and the Socialists of discountenancing this form of association.

It was more especially the development of the Co-operative Store Unions and the Credit Unions that he looked to as furnishing the basis on which later to build up his productive associations, the former, as the example of the Rochdale Pioneers had established, being the readiest mode of accumulating the necessary capital, the latter as affording the business education required and also a system of credit which might, with the exercise of due caution, assist the productive associations during the period of their incubation.

The Credit Associations have, as has been shown, been successful to a degree far beyond what was ever contemplated, and, as in the case of the Chemnitz Co-operative Machine-makers Association, the credit they have been able to afford to young productive unions has been of important use. The success, on the other hand, of the co-operative stores has fallen far short of what was hoped, indeed, it is but quite lately that the movement in this direction has begun to assume important proportions. With its development there can be little doubt that the productive Associations will begin to assume very different proportions from those they have now.

In his Report for 1865, M. Schulze enumerates 26 productive Associations as registered in the Central Bureau. of these 5 were composed of tailors, 5 of carpenters, 5 of weavers, 3 of machine-makers, 1 of printers, 1 of workmen in metals, 1 of bakers, 1 of clockmakers, 1 of shoemakers, 1 of sewing machine makers, and 1 of carriage makers.

The most important of these Associations is that of the machine makers of Chemnitz, of which an account is given in the Report of 1863. It was started by 400 workmen who had saved up a capital of 13,000 thalers, and a merchant who furnished 5,000 thalers, and took part in the business as manager. No further account is given of it in the later Reports; but though in 1863 they were doing a good business, having received large orders, the circumstances of the undertaking did not seem flourishing owing to the whole of the savings having been invested in fixed capital which had to be heavily mortgaged, and the Association being consequently left destitute of circulating capital. It was under these circumstances that recourse was had to the credit of the co-operative loan banks. M. Schulze-Delitzsch instances this as a case where it would have been of the greatest use to put off the under-

taking for some years until a larger capital had been collected.

The most successful of the Associations is that of the clockmakers at Frieburg. It consists of fourteen journeymen watchmakers who having been dismissed from their employers because they refused to subscribe to conditions which seemed unfair to them, clubbed together the savings they had made, and after a period of very great suffering and privation succeeded in establishing a flourishing business. At the end of the first year of their existence they had sold watches to the amount of 3,164 thalers, and had a share capital of 1,182 thalers, on which they paid 60 per cent. dividend.

The last category, that of the Unions for the purchase of the necessaries of life wholesale and the selling them retail; in other words the Co-operative Stores Unions have only lately begun to take root and spread. In the Report for 1865, the number of those registered at the central bureau is given at 157. Why this, the simplest form of co-operation, should have been the last to succeed is not quite clear to me, but I am inclined to assign the comparative difficulty which the co-operative store movement had to contend with, in its early years, to the fact of the co-operative movement generally having appealed more directly to the handicraft classes than to the factory operative classes, and a certain opposition between these classes having resulted therefrom. The disciples of Lassalle, as was noticed in my first paper, are almost all of them recruited from the class of "mill hands" and the bitterness with which he and his school inveighed against M. Schulze-Delitzsch naturally indisposed the classes amongst whom the great bulk of his supporters were to be found against the co-operative gospel preached by the hostile school. Now, co-operative stores are a form of association more particularly adapted to the great aggregations of consumers which are collected in the manufacturing districts, and unless this class of workmen were won over to the movement it would have little chance of success; and the fact of the now rapid spread of the unions would tend to show that M. Schultze-Delitzsch and his system is gaining ground amongst the factory population.

No. 13.

Mr. Jerningham to Lord Stanley.—(*Received June* 17.)

My Lord, *Stockholm, June* 11, 1867.

With reference to my despatch of the 12th of April last, I have the honour to transmit a copy of a letter which I have received from Count Manderström, together with its inclosure, upon the subject of the action of Trades Unions in Sweden, while his Excellency promises similar information respecting Norway.

With regard to coalitions and strikes, your Lordship will observe that those particular emblems of civilization ave not yet appeared in this country.

I have, &c.

(Signed) G. S. S. JERNINGHAM.

P.S.—As the weekly review of the "Aftonblad" contains some observations on working men's associations, I beg leave to forward the extract containing them.

G. S. S. J.

Inclosure 1 in No. 13.

Count Manderström to Mr. Jerningham.

Monsieur, *Stockholm, le* 8 *Juin*, 1867.

Par un office que vous avez bien voulu m'adresser en date du 12 Avril dernier, vous avez exprimé le désir d'obtenir des informations sur les lois en vigueur en Suède et en Norvège par rapport aux coalitions d'ouvriers aux grèves, &c.

Les Associations Ouvrières qui existent en Suède ont en général pour but de se procurer les vivres à bon marché ou bien de faciliter la vente des produits de leurs industries. Les dispositions de la loi par lesquelles le droit d'association est reconnu, se retrouvent dans les §§ 13 et 14 de l'Ordonnance Royale "concernant une plus grande extension de la liberté du travail," et j'ai l'honneur de se joindre un exemplaire de cette Ordonnance. Les cas de coalitions d'ouvriers ou de grèves ne se sont pas présentés jusqu'à présent.

En me réservant l'honneur de vous transmettre plus tard les renseignements demandés en Norvège, je saisis, &c.

(Signé) MANDERSTRÖM.

Inclosure 2 in No. 13.

Extract from the "Aftonblad."

Associations Ouvrieres.—Non-seulement les idées d'association qui ont, semble-t-il, tant de peine à s'acclimater dans certains pays, paraissent devoir prospérer ici, mais encore on a lieu d'espérer qu'elles sont appelées à y prendre un développement inattendu, en s'appliquant aux intérêts de l'agriculture, ce qui pourrait bien être la solution de cette redoutable énigme posée en ce moment dans tant de pays et qui s'appelle "la question agricole." Du moins c'est ce qui résulte du rapport annuel que vient de publier, pour 1866, la Société pour le progrès des Associations Ouvrières.

Quant à ces Associations proprement dites, qui se proposent le but général d'améliorer la condition sociale des travailleurs, il s'en est fondé à Stockholm, à Gothembourg, à Norrköping, à Gefle, à Oerebro. Ces sociétés sont en si bonne voie de succès que l'ambition leur est venue à presque toutes d'étendre le cercle de leur activité. Ainsi celle de Stockholm ne se propose rien moins, tout en se donnant un lieu de réunion, de doter la capitale d'un local, qui lui manque encore, pour les cours publics, les meetings, les concerts de grandes masses chorales. L'Association de Gothembourg, qui compte plus de 2,300 membres, organise, et avec succès, des expositions et des ventes d'articles fabriqués par les sociétaires et des établissements pour fournir à prix réduit, à ces derniers, les objets de première nécessité. A Norrköping, l'Association a constitué une société spéciale de commerce par actions ; celle de Gefle fonde une société de consommation et une caisse d'épargne et de prêt.

En ce qui concerne les Associations dont le but est plus restreint, le Rapport signale l'établissement d'un Banque de prêt et de secours à Wexiö, d'une société de consommation à Sundsvall, et une foule d'autres Associations dans diverses

villes—à Gothembourg, par exemple, pour l'exploitation d'ateliers mécaniques—à Norrköping pour la fabrication des tissus de laine. Il annonce l'établissement à Stockholm d'Associations de tailleurs, de peintres, de maçons, ceux-ci devant s'occuper de construire des habitations ouvrières, enfin la création d'une Banque populaire, dont les statuts n'attendent plus que la sanction royale.

Le Rapport signale en outre la création d'une société d'exportation à Gefle, d'une société d'importation à Kristianstad, d'une société pour l'achat, le sciage et le débit du bois de chauffage à Stockholm, &c.

Mais, encore une fois, ce qui frappe peut-être le plus dans ce document, c'est la partie qui traite de l'application de ces idées à l'agriculture, et des Associations en voie de formation pour l'exportation des céréales et des bestiaux, et l'exploitation en commun des grandes fromageries et en général des produits de la ferme.

Il semble bien en effet que pour l'agriculture le salut doive en grande partie être là.

No. 14.

Rear-Admiral Harris to Lord Stanley.—(*Received May* 24.)

My Lord, *Berne, May* 22, 1867.

The absence of the Federal Councillor charged with the Department of the Interior, who has been engaged at Paris in superintending the Swiss Commission at the Exhibition, has caused some delay in furnishing the information respecting Trades Unions in Switzerland, which I had requested in obedience to the instructions contained in your Lordship's despatch of the 3rd ultimo.

I have now the honour to inclose the answer to my application, received yesterday, and I have supplemented the information contained therein by transmitting a work recently published by M. Moynier, at the request of the Swiss Commission for the Paris Exhibition, respecting the working classes in Switzerland, their institutions, and habits. It has obtained general approval, and I believe its statements may be relied on, though perhaps its style is a little too laudatory.

The result of my observations during a residence of nearly nine years in this country would incline me to differ

from some of the causes assigned in the President's note for the non-existence of Trades Unions in Switzerland, or rather of the arbitrary and extravagant rules of Societies, originally established for mutual assistance, which have recently come to light in England, and which will doubtless be eventually rebuked and put down by public opinion and Imperial legislation.

I believe the enactment and concealment of such rules would be nearly impossible in this country, owing to the comparative sparseness and scattered distribution of the population, rendering the combination of masses difficult, whilst the contracted area of legislation in each canton tends to make public every act of its inhabitants. The laws of "établissement" which exist throughout Switzerland, and which are quite at variance with our ideas of individual freedom, constitute great obstacles in the way of the migration of working men, on the one hand placing the master more at the mercy of his men, and inducing him to make fair concessions; on the other, preventing the inroad of large numbers of migratory operatives, who are frequently the originators of discord.

As respects the "ton hautain" alluded to in the President's note, I have not observed greater urbanity in the tone of the employer of labour in this country to his workmen than in others, nor in the deference or respect paid to him by those whom he employs. This must here, as elsewhere, depend upon the character of individuals.

To the causes above-mentioned must be added the self-relying independence of the Swiss, his untiring industry, his patient endurance of want, and his strong common sense and shrewdness, causing him to look with suspicion and distrust on any one who would interfere with his liberty of action.

I have, &c.
(Signed) E. A. J. HARRIS.

Inclosure in No. 14.

M. Fornerod to Rear-Admiral Harris.

Berne, le 17 *Mai*, 1867.

LE Conseil Fédéral a l'honneur de fournir à son Excellence M. le Ministre de Sa Majesté Britannique près la Confédération Suisse les renseignements que lui a demandés

la Légation Royale par la note du 15 Avril dernier, comme suit :—

Il existe en Suisse des corporations industrielles, et ce sont des réunions de maîtres de différents métiers pour la sauvegarde de leurs intérêts techniques, industriels et mercantiles. Il y a, en outre, sociétés d'ouvriers, c'est-à-dire, des associations d'ouvriers et d'artisans, aussi de différentes professions, dans le but du perfectionnement intellectuel, de la recréation sociale, et de l'assistance mutuelle. Une des plus considérables de ces associations est la Société de Grutli, qui s'étend presque sur toute la Suisse. Il existe aussi en Suisse des sociétés de consommation ("co-operative stores").

En ce qui concerne, par contre, les Trades Unions, c'est-à-dire, des alliances d'ouvriers, dans un seul et même métier, pour maintenir et protéger leurs intérêts vis-à-vis de leurs maîtres, ou des personnes qui leur donnent de l'ouvrage, comme c'est le cas dans la Grande Bretagne et ailleurs, il n'y en a point en Suisse, à l'exception d'une seule, savoir, l'Association des Typographes Suisses (Typographenbund). C'est une réunion d'ouvriers imprimeurs qui, à l'instar de la société Allemande de Guttenberg, a été fondée en 1858 et qui comprend presque tous les ouvriers et apprentis imprimeurs de la Suisse.

Cette Association de Typographes a essentiellement pour but :—

a. De regulariser la concurrence des propriétaires d'imprimeries entr'eux vis-à-vis des personnes qui donnent de l'ouvrage en ce qui concerne les salaries et la répartition équitable des travaux publics ;

b. De sauvegarder les intérêts typographiques industriels vis-à-vis du public et de la législation ;

c. De régulariser l'apprentissage dans le sens d'une bonne éducation, et de restreindre le nombre des apprentis employés dans une imprimerie ;

d. De fixer les salaires à manière de pouvoir exister convenablement ;

e. De fonder et de perfectionner les institutions pour l'assistance et l'enseignement mutuels.

L'Association des Typographes n'est pas seulement destinée pour les apprentis et ouvriers, mais aussi pour les chefs d'imprimerie, attendu qu'il est dit aux Sections 2 et 3 des statuts :

"La réalisation des buts particuliers de l'association

incombe naturellement en partie aux chefs ou patrons, en partie aux ouvriers : et cela de telle manière que les chefs ont l'initiative et l'efficacité dans les points désignées sous lettres *a*, *b*, *c* ; les ouvriers, par contre, dans ceux indiquées sous lettres *d* et *e*. En outre, les chefs ou patrons et les ouvriers entrent en relation d'assistance mutuelle pour l'accomplissement des buts de l'association si cela paraît désirable et convenable à l'une ou à l'autre des parties.

Cette association de typographes a déjà maintenant, par son énergie, ainsi que par sa propagation étendue, obtenu maints succès notables. Elle n'a pas seulement réussi par différentes grèves ("strikes") à empêcher les maîtres de diminuer les salaires, ce que ceux-ci voulaient effectuer principalement en employant dans leurs imprimeries un trop grand nombre d'apprentis et d'ouvriers eminins, qui se contentaient d'un salaire tout-à-fait minime, mais aussi, en se joignant à l'agitation qui a réussi, d'abord en 1848, et ensuite en 1857, en Allemagne des imprimeurs et des compositeurs pour l'augmentation des salaires, en obtenant une augmentation semblable du salaire de 40 à 50 centimes pour 1,000 lettres, ou caractères d'imprimerie. Cette coalition des ouvriers imprimeurs fut si forte que les propriétaires d'imprimerie ne purent y résister, et quelques-uns à Berne et à Lausanne, qui repoussèrent opiniâtrement les réclamations de l'association des imprimeurs, tombèrent en discrédit, et, après un vain effort de faire exploiter leur industrie par des ouvriers feminins, durent enfin y renoncer entièrement, car l'association exerçait une discipline de fer, et ne permettait à aucun membre de travailler chez un chef d'imprimerie que l'association avait décrié.

La législation des Cantons-Suisses s'est peu occupée jusqu'à présent des coalitions d'ouvriers. Celles-ci sont légalement permises partout, excepté dans le Canton de Zurich, où elles sont soumises à certaines restrictions. On peut attribuer à différentes causes que, malgré cela, des grèves en masse n'ont pas lieu en Suisse, à l'exception des cas sus-mentionnés. D'un côté, la différence sociale entre les maîtres et les ouvriers n'est pas si grande que dans maints autres pays; l'égalité politique de tous les citoyens empêche les maîtres de prendre un ton hautain vis-à-vis de leurs ouvriers ; on cherche à les concilier et à prevenir à temps des mesures violentes par des concessions et des institutions en faveur des ouvriers. De l'autre côté, les

classes ouvrières ne demeurent très-près les unes des autres, et n'ont dès-lors que peu d'occasions de s'entendre sur des démarches en commun. Une grande partie de l'industrie Suisse étant d'ailleurs industrie domestique, c'est-à-dire, une industrie qui peut être exploitée à côté d'autres occupations—*e. g.*, l'économie rurale, et dans laquelle l'intérêt de l'ouvrier n'est pas si exclusivement mis à requisition que là où il dépend entièrement de son activité industrielle—cela explique aussi pourquoi il n'arrive pas en Suisse de crises industrielles, et qu'il y a moins occasions à des grèves ("strikes") en masse.

Il faut encore ajouter à cela que la plupart des ouvriers qui sont dans de grandes fabriques ont en même temps une petite propriété foncière qui est exploitée à côté; que par là, d'une part ils ne sont pas exposés lors de crises de cherté à être forcés de travailler à tout prix, mais d'autre part aussi qu'ils vivent simplement, que dans les bons jours ils ne pressent pas les donneurs d'ouvrage d'augmenter leurs salaires, en sorte que l'on conserve une certaine proportion durable de salaire; que les mœurs sont aussi encore simples, et que le luxe et la prodigalité sont abhorés par le peuple Suisse; que chacun est accoutumé à travailler, et que des gens riches aussi ne se reposent pas jusque dans un âge avancé, mais conservent la direction supérieure de leurs affaires.

Enfin, la bonne éducation scolaire, dont jouit généralement la population ouvrière de la Suisse, la rend aussi plus facilement capable de juger de la situation d'une affaire, pour voir que le fabricant dans un temps difficile a sans cela assez à lutter, en sorte qu'on ne saurait attendre de lui des sacrifices, et que par la grève ils ne nuisent en définitif qu'à eux-mêmes, attendu que les commandes s'adressent à des concurrents étrangers.

Désirant que ces renseignements puissent être de quelque utilité au Gouvernement de Sa Majesté Britannique, le Conseil Fédéral saisit, &c.

Au nom du Conseil Fédéral,
Le Président de la Confédération,
(Signé) G. FORNEROD.
Le Chancelier de la Confédération,
SCHIESS.

No. 15.

Sir F. Bruce to Lord Stanley.—(*Received May* 18.)

My Lord, *Washington, May* 6, 1867.

With reference to your despatch of the 3rd ultimo, instructing me to report on the action of Trades Unions in the United States, I have the honour to inform your Lordship that I have received a note from the Assistant Secretary of the Interior Department, stating that no reports or documents of the description required exist in that Department, and that he is unable to inform me where any authentic information on the subject is to be obtained.

I have, &c.

(Signed) FREDERICK WRIGHT BRUCE.

REPORTS

ON THE

AGRICULTURAL EXHIBITIONS

AT

VIENNA

AND

AARHUUS (DENMARK).

BY

JOHN WILSON, F.R.S.E., &c.,

PROFESSOR OF AGRICULTURE IN THE UNIVERSITY OF EDINBURGH; MEMBER OF COUNCIL OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND CORRESPONDING MEMBER OF THE IMPERIAL AND ROYAL AGRICULTURAL SOCIETIES OF FRANCE, AUSTRIA, HANOVER, NORWAY, SWEDEN, UNITED STATES, CANADA, ETC.

Presented to both Houses of Parliament by Command of Her Majesty.
1867.

LONDON:
PRINTED BY HARRISON AND SONS.

FOREIGN OFFICE,
May 2, 1866.

SIR,

I am directed by the Earl of Clarendon to state to you that his Lordship has selected you to proceed to Vienna for the purpose of reporting on the Agricultural Exhibition about to be held in that capital.

Lord Clarendon desires me further to state to you, that as it is probable that much interesting information may be forthcoming from the Agricultural Exhibition which is proposed to be held in Jutland in June next, it is his Lordship's wish that when you have concluded your labours at Vienna, you should proceed to Jutland for the purpose of reporting on that Exhibition also.

I have, &c.

(Signed) A. H. LAYARD.

PROFESSOR WILSON,
Iver, Uxbridge.

REPORT

ON THE

AGRICULTURAL EXHIBITION

AT

VIENNA.

REPORT.

EQUIVALENTS OF AUSTRIAN MEASURES REFERRED TO.

Austrian	Inch	= 1·037	inch	(English.)
„	Foot	= 1·037	feet	„
„	Sq. Klafter	= 4·82	sq. yards	„
„	Joch	= 1·42	acres	„
„	Sq. Mile	= 22·2	sq. miles	„
„	Pound	= 1·23	lbs.	„
„	Centner	= 123	lbs.	„
„	Metzen	= 1·691	bushels	„
„	Eimer	= 12·76	gallons	„
„	Mass	= 2·5	pints	„

THE last meeting of the Imperial Agricultural Society held at Vienna was in 1857, when a sort of international character was given to it by an invitation to the makers of agricultural machines and implements of other countries, to send their manufactures for exhibition, and certain inducements, in the shape of medals, &c., were offered to them. Since that time, the Society, like our own Royal Agricultural Society, has held its gatherings annually in different localities of the Empire, until the present year, when it decided to hold its great meeting in Vienna—the Kaiser-Stadt—and again to ask for the presence of the engineers and machinists of foreign countries, to take part in the Exhibition.

The place selected for the Exhibition—the Prater—was admirably adapted for the purpose. The space at the disposal of the Society was ample for every purpose, while its proximity to the city, and the facilities of access to it, both by road and by water, were advantages that few capitals could offer for such meetings.

The Exhibition was upon a far more comprehensive scale than that which we are accustomed to in this country. It comprised not only machinery, live stock of all sorts, including fish, and agricultural and forest products, but also specimens of industries based upon them. The various objects exhibited were divided into nine groups, these being again sub-divided into classes according to their respective characters.

The groups were arranged as follows:—

1. Machines and Implements used for field or forest cultivation.
2. Agricultural products and industries.
3. Products of forest-management.
4. Beverages, and fruit-tree cultivation.
5. Illustrative collections of agricultural construction and engineering, and of materials and appliances for agricultural teaching.
6. Specimens of the manufactures required for household purposes.
7. Farm stock, including horses, cattle, sheep, swine, and fowls.
8. Fish, and fish-breeding appliances.
9. Dogs.

The Exhibition was opened on the 17th May, and was appointed to close on the 31st. Owing to the inclemency of the weather, during the greater part of this period, and other considerations, the industrial portion, comprising the six first groups, was kept open for an additional fortnight.

The live stock were exhibited in sections, at successive periods, in the following order:—The first five days, 17th to 21st May inclusive, were devoted to the cattle, sheep, and swine classes. The horses and poultry classes followed from the 23rd to the 27th inclusive; the two last days 29th to 31st, being assigned to the dog classes. By this arrangement, public interest in the Exhibition was sustained by the change in the object to be seen, while the resources of the Society were economised by the use of the same shedding, &c., for the three divisions of stock exhibited.

Prizes, in the shape of gold and silver medals and money, were given in the several groups by the Government, by the local authorities, and by the Society. The jurors were selected for their special acquaintance with the objects or department they had to examine, and were presided over by Count Rudolf Wrbna; the President of the General Exhibition being the Prince Schwarzenberg, and the Archduke Carl Ludwig, the Protector or Patron.

It will be well, perhaps, to give a brief and condensed sketch of the leading physical and economic features of the Austrian Empire, before proceeding to discuss her industrial condition as illustrated in the Exhibition upon which I have now to report.

The different provinces (Kronländer) forming the Austrian Empire, comprise a surface area of nearly 11,000 square miles (Austrian),* distributed as under:—

	Square Miles.
Archduchy of Austria Upper	344·5
„ „ Lower	208·5

* The Austrian square mile is equal to 22·2 English square miles.

	Square Miles.
Duchy of Salzburg	124·5
„ Styria	390·2
„ Carinthia	180·3
„ Carniola	173·6
Margravate of Istria and the Coast Land	138·8
Principality of Tyrol and the Vorarlberg..	509
Kingdom of Bohemia	902·8
Margravate of Moravia..	386·3
Duchy of Silesia	89·4
Kingdom of Galicia	1364·1
Duchy of Bukowina	181·7
Kingdom of Dalmatia	222·3
„ Hungary	3727·7
„ Croatia and Sclavonia	335
Grand Principality of Transylvania	954·3
Military Frontier	583

The Austrian Empire is, with the exception of Switzerland, the most mountainous State of Europe, fully three-quarters of its area being of a mountainous character. The extensive Alpine system so largely developed in the Tyrol, Salzburg, Styria, Carinthia, and Northern Carniola, slopes southward and south-eastward towards the Venetian and Dalmatian coast lines. The highlands of Southern Austria and Western Hungary divide the great Danubian basin into two parts, the Upper Danubian and the the Vienna basins. On the other side of the Danube, the highlands of Bohemia, Moravia, and Silesia occupy considerable areas. Eastward from the March, the Carpathian range stretches in a semi-circular course between Hungary and Galicia, on both sides of which the Carpathians are connected with a mountainous region which traverses the gradient plains of Galicia to the plains of Russian Poland, and trends southward down to the plains through which the Theiss and the Danube flow. The Alps, Carpathians, and Transylvanian highlands enclose the whole of the extensive plains of Hungary. The Galician lowlands occupy an area of about 1,000 square miles (Austrian), and the Hungarian plains may be taken at about double that extent.

The river system of Austria appears to have a range fully adequate to the natural requirements of the land. On the south, tributary to the Adriatic, are 1,215 square miles,—to the North Sea, 1,050 square miles,—and to the Baltic, 825 square miles of river area. The remainder is tributary to the Black Sea, principally through the Danube river system, the area of which is computed at about 7,600 square miles within the Empire.

The greater part of the Empire lies within the temperate zone, the northernmost parts of Bohemia, Silesia, Galicia and Bukowina, slightly overlapping the limits of the sub-arctic zone. The country is situated almost entirely in the region of westerly winds. The mean direction of the winds in North-Western Bohemia is from W. to S. In the other portions of Bohemia, in Moravia, Galicia, Hungary, and Austria Proper from W. to N. Within the Alpine regions the general laws are modified in various directions by local conditions. On the coast line generally, the "Bora" and "Sirocco"

(winds occasioned by disturbed equilibrium due to the peculiar conformation of the land and sea), prevail, and struggle for ascendency during the greater part of the year.

The rain-fall throughout the entire Empire is equal to the demands of the vegetation of the district this being determined however mainly by the amount falling during the year. In some of the mountain districts it ranges as high as from 50 to 70 inches;* through Northern and Eastern Bohemia, passing Vienna, and traversing Central Hungary, the zone of 25 inches takes its course; the interior of Bohemia, the southern half of Moravia and the great Hungarian plains receive about 20 inches annually, while there are a few insulated districts, as in the vicinity of Prag, and the districts round Raab, Komorn, and Tokai, where the rain-fall averages only from 12 to 15 inches.

According to the last census returns (1857) the population was estimated at 35,019,058. In 1864, it had increased to 37,710,000.† These were distributed as under:—

	Population.
Austria Upper	716,072
,, Lower	1,745,800
Salzburg	146,930
Styria	1,080,196
Carinthia	340,202
Carniola	468,918
Istra and Coast-land	557,336
Tyrol and Vorarlberg	873,316
Bohemia	5,059,125
Moravia	1,983,324
Silesia	483,408
Galicia	5,004,568
Bukowina	501,038
Dalmatia	437,788
Venetia	2,576,185
Hungary	10,567,590
Croatia and Sclavonia	941,630
Transylvania	2,052,292
Military Frontier	1,111,014
Total	37,710,000

Of this population, it appears that more than two-thirds are engaged in the cultivation of the soil. Only in Bohemia and in Lower Austria and Moravia are these proportions lessened—in the former, the agricultural proportion is rather less than one-half—while in the latter, it rises slightly above the half.

Notwithstanding the generally mountainous character of the Empire, the soil is very productive, and a very large proportion of it is subjected to the operations of productive industry; the higher districts generally retaining their natural pastoral characters, and the lower being devoted to the operations of tillage, and the productions necessary for the comfort as well as food for the people.

* The Austrian inch is equal to 1·037 inch (English).

† From these figures the population of Venetia, now ceded to Italy, must be deducted.

The relative proportions of productive and unproductive land are given as follows :—

	Productive.	Waste.	Percentage.	
			Productive.	Waste.
Upper Austria .. .. Jochs*	1,892,643	192,097	90·79	9·21
Lower „	3,276,604	168,296	95·12	4·88
Salzburg	1,023,575	221,625	82·20	17 80
Styria	3,590,069	311,831	92·01	7·99
Carinthia	1 578,667	223,933	87·58	12·42
Carniola	1,633,714	96,986	94·41	5·59
Istria and Coast-land	1,297,223	90.977	93·45	6·55
Tyrol and Vorarlberg	4,218,254	877,946	82·77	17·23
Bohemia	7,784.972	1,243,528	86·23	13·77
Moravia	3,724,222	138,678	96·41	3·59
Silesia	890,733	3,767	99·58	·42
Galicia	11,858,190	1,782,410	86·93	13·07
Bukowina	1,766,307	49,793	97·26	2·74
Dalmatia	2,142,522	80,478	96·38	3·62
Hungary	31,297,991	5,978,709	83·96	16·04
Croatia and Sclavonia	2,901,403	417,797	86·63	13·37
Transylvania	8,261,255	1,287,245	86·52	13·48
Military Frontier	4,672,729	1,157,271	80·15	19·85

The relative areas of the productive land, divided under the three heads of wood-land, grass-land, and arable land, in the several provinces, are thus given :—

	Wood-land.	Grass-land.	Arable land.
Upper Austria	33·7	21·7	35·3
Lower Austria	32·2	20·2	41·1
Salzburg	53·9	16·8	9·4
Styria	47·	21·3	22·1
Carinthia	53·7	21·2	13·3
Carniola	43·	37·4	13·6
Coast-lands	25·4	44·4	17·3
Tyrol and Vorarlberg	28·	25·2	5·1
Bohemia	29.	19·4	48·
Moravia	25·9	18·7	50·8
Silesia	31·8	18·	46·6
Galicia	25·4	21·3	40·7
Bukowina	45·8	26·9	24·5
Dalmatia	21·4	57·4	11·0
Hungary	22·6	26·1	33·9
Croatia and Sclavonia	37·4	20·9	26·6
Transylvania	37·3	26·1	22·6
Military Frontier	27·8	27·1	23·4

Thus the *minimum* proportion of waste to cultivated land is

* The joch is equal to 1·42 acres (English).

in the Bukowina, where it is only ·42 per cent., while in the territory on the military frontiers it rises to the *maximum* of 19·85 per cent. The peaks and ridges of the various mountain ranges, some of the moorlands and marshes, particularly those near the Hungarian lakes, and within the river system of the Theiss, and some small tracts covered with quicksands, form the only portions of land which may be said to be entirely unproductive.

In so large an area as that comprised in the Austrian Empire, varying as it does both in climates and soils, it is extremely difficult, notwithstanding the care and exactitude with which their statistics have been collected and compiled, to obtain a true average of the value of the soil throughout the Empire. The following estimate is probably as near an average as can be obtained. The value of the arable land may be taken at 150 florins—garden land at 400 florins—vineyards at 300 florins—meadow land at 150 florins—natural pasture at 50 florins—and woodlands at 40 florins per joch.

The proprietary partition of the soil appears to range from well-nigh one extreme to the other. We meet with, on the one hand, some of the finest and most extensive landed properties in Europe such as those of the Schwarzenberg, Liechtenstein, and Esterhazy families, and on the other, a sub-division of surface, stopping short only of that degree which exists in Western Germany and France. The great middle-class proprietary which exists in this country and which exerts so powerful and beneficial an influence on its productions and general welfare, is only very sparingly represented in the Austrian Empire. In round numbers it is computed that in the Duchy of Salzburg the average area of the properties is from 40 to 50 jochs: in Carinthia, Galicia, and Bukowina from 20 to 30 jochs; in Hungary 20 jochs; in Croatia, Sclavonia, and Transylvania 18 jochs; in Styria, and Upper Austria 17 jochs; in Silesia 14 jochs; in Carniola and Dalmatia 13 jochs; in Bohemia 12 jochs; in Lower Austria and the Coast-land 11 jochs; in Moravia 10 jochs. As these estimates are computed from the payments of the land tax on the several properties, the same proprietor may have paid separate amounts on several different properties belonging to him even in the same district; consequently the estimates now given are clearly below the real average.

All the varieties of grain crops are cultivated in the Austrian Empire. For wheat, Hungary, the Banat, and Bohemia are the most suitable; the light soils of the latter producing the best quality of rye. Galicia ranks next for both wheat and rye, and is succeeded by Moravia and Lower Austria. About 80 per cent. of all the oats and barley are supplied by Hungary, Galicia, Bohemia, and Moravia; Lower Austria producing the largest proportion of oats. Maize, millet, &c., are chiefly grown in Hungary, Croatia, Sclavonia, Transylvania, Dalmatia, Bukowina, and the Military Frontier. Rice is cultivated only in Istria and the Coast lands.

The quantities of the several crops produced annually may be taken in round numbers, at :—

Wheat	50,000,000	Metzen.*
Mixed corn	15,000,000	„
Rye	65,000,000	„
Barley	50,000,000	„
Oats	100,000,000	„
Maize	44,000,000	„
Millet and buckwheat ..	10,000,000	„
Rice	500,000	Centners.†

Beside the large proportion of potatoes, turnips, and other fallowing crops, necessary for the support of the population or of the live stock of the country, the soil produces large crops of plants which are cultivated specially for industrial and technical purposes. Of these the vine is the most important, the average annual produce of which is estimated at 40,000,000 of eimers of wine.‡ Hungary, Lower Austria, and Styria are the principal vine-growing districts. In all there are about 250 square miles (Austrian) under vine cultivation, of which an area equal to 110 square miles is in productive bearing. The abolition of the Customs Regulations, which formerly placed a barrier between the Hungarian provinces and the rest of the Empire, has done much towards increasing and improving this important branch of national industry.

Tobacco is another large and important cultivation, the produce annually amounting to about 1,000,000 centners. This crop is grown almost exclusively in Hungary, Transylvania, Galicia, Bukowina, and the Military Frontiers.

In the aggregate these branches of the productive industry of the Empire represent an annual amount of 1,600,000,000 florins, or equal to £160,000,000 sterling.

The "Live Stock" embraces all those animals forming the ordinary farm stock of this country, with the addition of asses and goats, which we possess in proportions too small to have any statistical value.

At the beginning of 1865 the number of the several descriptions of stock, exclusive of Venetia, were :—

Horses (of all sorts)	3,389,876
Mules and asses	77,661
Cattle (of all sorts)	13,660,348
Sheep ditto	16,573,459
Swine ditto	7,914,485
Goats ditto	1,458,591

The value of the stock thus enumerated, is estimated at 1,000,000,000 florins, or £100,000,000 sterling. Their annual produce is computed to average—

Cows' milk	100,600,000	Eimers.
Goats' milk	9,013,000	„
Butter	2,410,386	Centners.
Cheese	1,387,980	„
Wool	491,566	„

* The metzen is equal to 1·691 bushels (English).
† The centner is equal to 123lbs. (English).
‡ The eimer is equal to 12·76 gallons (English).

Besides the animal products, Austria contains about 60,000,000 fowls, which give an annual return of the value of 40,000,000 florins, also 3,000,000 of hives of bees, producing annually 263,697 centners of honey, and 54,984 centners of wax; and silkworms, whose annual produce amounted to 28,302 centners of cocoons. Before the cession of Lombardy and Venetia to Italy, the silk produce was very much larger; now, the Southern Tyrol is the only representative of the silk-produciug districts of the Empire. In addition to these direct products of cultivation, we find that the "wild fowl and wild animals" of the Empire furnish an average annual amount of food of about 1,600,000 centners, while the fish-produce of the lakes and rivers is estimated at 1,500,000 centners. Altogether, the aggregate annual value of the returns from the different branches (animal and vegetable), of productive industry, amounts to 2,120,000,000 florins, or equal to £212,000,000 sterling.

In a country like Austria, where the military element is so largely developed and so highly valued, the breeding of horses naturally becomes a subject of some consideration to the State, as well as to the agricultural community. Encouragement is given by the State in the shape of liberal prizes, both at local exhibitions, and at numerous races in different parts of the Empire.

In addition to numerous private studs, there are two large studs belonging to the Imperial Court, and six others on a larger scale supported by the State, solely for military service. These latter have an average number of 7,200 horses; besides which there are in different parts of the Empire nearly 600 stations, where about 2,200 stallions are kept for the service of their respective districts.

It does not appear that there are any very distinctive breeds that is to say, none which possess those permanently distinctive characters which mark, say, our Suffolks, Clevelands, or Clydesdales. The light Hungarian breed is considered the best for the saddle, the Transylvanian for light draught work, and the Noric breed of the Alpine districts, for heavy draught purposes. Great attention is also paid to the breeding of horses in Moravia, Bohemia, and Silesia.

Mules and asses are rarely met with anywhere except in the Southern Tyrol, Dalmatia, and Hungary.

The horned cattle may be classed in three divisions—the lowland, the mountain, and the domestic and crossed breeds. The Hungarian, Galician, and Lower Danubian breeds may be taken as specimens of the first, the Pinzgau and Tyrol breeds of the second, and the various crosses of the old German, the Swiss, and other imported stock with the native breeds, represent the last division.

For feeding purposes, the Hungarian and lowland breeds are considered the best, and large numbers bred in these countries are fattened in Galicia and Bukowina every year. The mountain breeds are those best suited for dairy purposes, the rich pastures

enabling the dairy farmers of the Alpine districts to uphold their character for quality, as well as quantity, of produce.

The various breeds were generally well represented at the Exhibition, and will be again more particularly referred to. The greatest proportion of the horned stock, amounting to 30 per cent., is bred in Hungary, about 16 per cent. in Galicia, 14 per cent. in Bohemia, and 7 per cent. in Transylvania.

Sheep have always formed a leading feature in the husbandry of Austria. Bohemia, Moravia, Silesia, and Lower Austria are the provinces where perhaps the greatest attention has been paid to sheep farming. Of late years in Hungary and Galicia great care has been bestowed upon them, and marked improvement in the breeds and the wool produce, has been the result. Some of the Hungarian flocks of the present day, compete successfully, both at home and abroad, with those of the most renowned names in the northern provinces. These were well represented at the Exhibition, and attracted, as they deserved, great attention.

In Austria, though the sheep is such a favoured animal, it is far less productive as farm stock, than with us. In most cases the wool produce is the only consideration, all the care and attention being bestowed on it with this one object. With the exception of Carniola, Dalmatia and the Military Frontiers, its structural points and meat produce receive but very little attention; while in many districts, especially in the flocks of small proprietors and peasant farmers, the ewes are regularly milked to the great detriment of their lambs, their fleece, and their carcase.

The Hungarian plains comprise the principal districts where "swine" are bred and kept in large numbers—they are thence distributed through the higher-farming districts in Moravia, Bohemia, and Silesia, and also the dairy districts of the mountain regions, where they consume profitably the secondary and waste products of husbandry, and thus add to the resources of the farms. In addition to those bred in the lower Danubian provinces, about 500,000 are annually imported from Servia and Wallachia for feeding purposes.

The freights for swine form a considerable item in the returns both of the railways and steam navigation of the Danube. The principal native breeds are the Podolic, Servian, and Szalovtan. These are being slowly replaced in most of the best districts by improved breeds from Germany, or from our own country.

Submitting this very condensed sketch of the natural forces and productive industries of the Empire, for which I am largely indebted to the works of Dr. Arenstein and Dr. Pabst, I pass on to the consideration of their representation in the Exhibition.

GROUP I.

Machines and Implements used in Field and Forest Cultivation.

This department of the Exhibition was extremely well illustrated, and comprising, as it did, the manufactures of other countries besides

those of Austria, it excited much interest during the whole period of the Exhibition. This important branch of engineering industry, which belongs quite to our own day, has been of late years making great progress in Austria. It was originally commenced and encouraged by large landed proprietors in Bohemia and Silesia, principally with the view of inducing their numerous tenantry to substitute machinery for hand labour, and thus aid the improvement of their estates. About 18 years ago, a great impetus was given to the trade by the great rise in the value of labour, consequent upon the abolition of "soccage" (dienstlehen), up to which period the feudal system of personal service from the tenant occupiers of the soil was the law of the land. Several manufacturing establishments on a large scale sprang up rapidly in various parts of the country, to meet the new demand. These have been carried on and enlarged from time to time with results beneficial both to the country and to their spirited proprietors.

The greatest advance, however, seems to date from 1857, when the Imperial Agricultural Society held its last meeting at Vienna, since which time the progress has been remarkable. In 1863, it was ascertained that there were 358 steam-engines in use for agricultural purposes, of which about one-fifth only existed at the former date. About 54 per cent. of the whole number are to be met with in Hungary. Of these 326 were *moveable*, and employed for the following purposes:—

Threshing and barn work	252
Steam ploughing	2
Irrigation purposes	3
Peat-pressing, &c..	2
Draining bogs, &c.	2
Silk spinning factories	11
Other purposes	3

Of 53 others which were *fixed*, 50 were in use for threshing and barn work. There are upwards of twenty large manufacturing establishments located principally either in, or close to the principal cities,—as Vienna, Prague, and Pesth. In addition to these, there are numerous manufacturers on a small scale, or carrying on separate branches of the trade,—sometimes on a very extensive scale,—as of scythes, sickles, &c., in different districts of the Empire. The scythes and sickles of Austrian manufacture are known far and wide, not less for the excellence of the temper and quality of steel used, than for the low price at which they are sold. They are made chiefly in Upper and Lower Austria, Styria, Carinthia, and the Tyrol.* Of the various forms of cutting tools used in agriculture, about 6,500,000 are manufactured in these districts annually, representing a value of about 2,600,000 florins, a great portion of which is sold to foreign

* The principal works are at Knittelfeld, Uebelbach and Weitz, in Styria, at Sterzing in the Tyrol, and Wolfsberg, in Carinthia.

countries. Scythes of first quality are sold at 60 to 100 florins the 100, according to the length and shape of blade; and sickles, hooks, &c., at about one-fourth to one-third that price. Surely some of our enterprising firms might open up commercial relations with some of these manufacturers to their mutual benefit, and to the benefit of our agricultural labourers also. These various establishments give employment to upwards of 15,000 persons, and yield an annual return of about 12,000,000 florins, or equal to £1,200,000 sterling.

The demand for first-class agricultural machines and implements has been for several years past largely supplied by this country, and the trade has been so encouraging as to induce some of our leading houses to establish themselves regularly in Austria. Messrs. Clayton and Shuttleworth, of Lincoln, have a large manufacturing establishment at Vienna and also at Pesth; and Messrs. Garrett and Sons, of Saxmundham, and Marshall and Sons, of Gainsboro', have depôts at Pesth for the sale and repair of their manufactures.

In looking over the numerous and large collections of implements displayed for Exhibition, I was much impressed with the general great improvement which had been made since the former great Exhibitions of 1851 and 1855, and even since 1862. Most of the principal machines are fashioned after English models. In many instances the name of the original maker is attached to the machine, and specimens of the "Howard-pflug," the "Sortir-reuter Boby," the "Säemaschine Garrett," and the "Häcksler nach Richmond and Chandler," were met with at several of the stands. These were generally marked at prices which ought to leave a large margin of profit to the manufacturer.* Owing, however, to the rate of exchange at the time being greatly in favour of England, the ordinary prices of the English goods, when converted into Austrian currency, was increased by 25 to 30 per cent., which interfered greatly with the trade relations between the two countries. In looking closely into the materials used and the workmanship, a critical eye would notice, here and there. defects which no doubt experience will lead them to rectify, Bearing surfaces in the naked unprotected wood,—soft wood used instead of ash or oak,—and metal joints brazed instead of welded, all tend to cheapen the manufacture, though they really depreciate the machine.

No other country responded to the invitation of Austria to contribute to the Exhibition so freely and fully as our own. Most of our leading establishments were well represented, and the machines and implements exhibited by them creditably upheld the mechanical and technical skill of our agricultural engineers and machinists.

* Garrett's drill .. .. .. 450 florins.
„ horse hoe .. .. .. 350 „
Howard's plough .. .. .. 35 „
Boby's screen .. .. .. 125 „
Richmond and Chandler's (4) chaff-cutter 165 „

From Prussia a few exhibitors were present, but no one from the States of the Zollverein could stand a comparison with the engines and machines of John Garrett, of Buckau, near Magdeburg.

France and Belgium were represented by a single exhibitor respectively, and towards the close of the Exhibition,* a small collection of models and small tools, having no direct agricultural importance, were sent from the United States.

Great disappointment was caused to most of the leading exhibitors, certainly to our own, and to the public generally, on finding that no arrangements had been made for anything like practical trials, competitive or otherwise; the Jury contenting themselves with the mere examination of the machines and implements. This, I venture to submit, was a great mistake, and a great injustice to their own manufacturers. An opportunity was thus unheeded of giving a lesson, by means of friendly comparison, which ought not to have been lost, and which would, without doubt, have been fraught with more future good to Austrian agriculture and to their own implement makers, than any encouragement in the shape of medals or honorary commendations that could be conferred.

The following awards were made to English exhibitors:—

The State prize of 50 Austrian ducats for the best collection of agricultural implements, &c., to Clayton and Shuttleworth, of Vienna.

Large silver medals were awarded to Messrs. Clayton and Shuttleworth, Marshall and Sons, Richmond and Chandler, Robey and Co., Picksley and Sims, Garrett and Sons, Hornsby and Sons, and Ruston, Procter and Co.

Small silver medals were awarded to Messrs. Boby—Bentall—and Linneker.

Great bronze medals were awarded to Messrs. Powis and Co.—Fox and Walker—and Davey, Brothers; and

Honourable Mention to Messrs. Riches and Watts—and to the Reading Iron Works Company.

GROUPS II and III.

Agricultural and Forest Products and Industries.

Both of these groups were fully and admirably represented, illustrating by the variety of the products and excellence of the specimens exhibited, the vast natural resources of the Austrian Empire.

The statistics already given† in the introductory sketch, show that the great wealth of the Empire lies in her soil, and that the agricultural is the dominant interest in the country. The wood-

* It is right to observe, that in this, as well as in the classes of live stock, much difficulty was experienced in the transmission of objects for exhibition. The whole force of the railways, both before and during the period of the Exhibition, were absorbed in transporting troops and war materials.

† See pages 7 and 9.

lands form a large proportion, more than one-fourth of the entire productive area of the country, occupying about 3,133 square miles (Austrian). The description of timber is determined chiefly by soil and climate. In the mountain districts of Upper and Lower Austria, Salzburg, Tyrol, Carynthia, Bohemia, Moravia, Galicia, and Bukowina, the coniferæ predominate. At lower levels, especially on calcareous soils, the beech is seen growing freely to large dimensions; while in the north-west the oak, and to the south, the ash, elm, chesnut, and walnut are met with in large quantities. It is only in Dalmatia, Istria and the Coast-land, Galicia, and in the vast Hungarian plains and moorlands that forests are absent and timber scarce.

The direct timber produce of the forests may be taken at an average annual supply of about 30,000,000 Vienna fathoms,* of which a considerable proportion is exported to other countries through the Po, the Elbe, the Oder, the Vistula, and the Dniester rivers. Besides the timber, the forests produce annually about 500,000 centners of gall nuts, 4,000,000 centners of tanning bark, 250,000 centners of resin and turpentine, and 100,000 centners of crude potash. In addition to these inanimate productions the wild game produce forms an item of considerable importance. The average quantities returned annually amount to 50,000,000 of hares, 50,000,000 of winged game, 5,000,000 of water fowl, 60,000 roe-deer, 3,000 stags, and 10,000 wild hogs, giving a dead-weight return of about 1,600,000 centners, and having a money value of about 50,000,000 florins.

In classes like these two now under discussion, where well-nigh everything coming within their range was represented and all creditably displayed, it would at first appear somewhat invidious to make only a few selections, and offer them as the representatives of the whole class. This would clearly be unjust to the many, were the objects exhibited the results only of human industry and skill; but in both these classes the products depend mainly upon natural causes, as soil and climate, and only in a secondary degree upon the care and attention of man. Therefore when I confine myself to the fine and comprehensive collections of the State Departments, of the Archduke Albrecht, of Prince Schwarzenberg, of Prince John Liechtenstein, and of one or two others on a smaller scale, I shall do no injustice, I hope, by my omissions to those other collections of equally, nay perhaps in some respects more meritorious exhibitors, whose estates and means would not admit of a successful rivalry with them.

The State Department of "Woods and Forests" (Forstverwaltung) exhibited a large collection of forest products of every description, and of models of saw-mills and other constructive arrangements. Representing as they did the different forests of the State in various parts of the Empire, they were invested with much interest. Sections of the timbers were shown with examples of the uses to which they were best

* The Vienna Klafter fathom is equal to 4·28 square yards (English).

suited. Specimens of diseased timber were exhibited with the forms of disease or of insects causing injuries to them.

The State Tobacco Manufactory exhibited specimens of all the varieties of tobacco grown in the Empire, both in the leaf and, where practicable, in the manufactured state.

The Archduke Albrecht's collective exhibition was upon a very large and comprehensive scale, embracing not only both agricultural and forest products, but also specimens of the industries based upon them, which come under the head of Groups IV and VI. The specimens exhibited came chiefly from his estates in Galicia, Silesia, and Hungary. The collection comprised grain of all sorts, small seeds, flowers, flax, hemp, hops, tobacco, and roots.

Along with the samples of Hungarian hops was shewn a plan of the method of cultivation, carried out at Bellye, adapted for all other districts where wood suitable for hop-poles, is scarce. Wooden pegs or short stakes are driven into the ground at such distances apart as it is intended to plant the vines, and at longer distances—usually about 20 to 25 yards—light poles are erected with a height of from 12 to 15 feet above the surface, so that there are parallel lines all over the ground of short stakes or pegs placed at certain distances and projecting about 8 to 12 inches in height, while parallel rows of poles from 12 to 15 feet high cross these at right angles, and at from 20 to 25 yards distance apart. A stout wire is stretched horizontally from pole to pole all over the ground, while vertical wires or light ropes, made of any suitable material, are attached to the pegs and carried up and fastened to the horizontal wires, thus offering a steady support to the hop-vine during the period of growth. At harvest time the ropes are detached and carried to the picking stage with the vines, and the field cleared for the usual tillage operations without the trouble and expense of shifting, stacking, and resetting the poles. This plan has been carried out, I was informed, during several seasons at Bellye, and has been introduced into Wurtemberg, Baden, Bavaria, and other hop-producing countries with satisfactory results.

From his domains of Teschen in Silesia, of Saybusch in Galicia, and of Bellye in Hungary, well-nigh every product of the forest was well illustrated. Timbers were shown in the boll and cut up into planks rough and faced, some of large sizes, as well as seeds and young trees in various stages of growth. The wild game of the forests were illustrated by admirably stuffed specimens.

In the collective exhibition of the Prince Schwarzenberg, from his estates at Frauenberg in Bohemia, and Murau in Styria, were also specimens of the wild fowls and animals of his forests, stuffed and set up in excellent form. All the usual products of the soil and of the forest were well represented. Grains, seeds, meal, flour, hops, wines, oils, wool, roots, and fodder plants, were well displayed. A large lot of curious deformities of the bark or branches of trees, suitable for veneering and for decorative purposes were shown; while alongside was a large series of samples of the

timber woods, suitable for the finer purposes of the cabinet-maker and house carpenter. Shingles for roofing were also exhibited.

Prince Liechtenstein's collective exhibition was a worthy rival of the two preceding collections, his large estates in Bohemia, Moravia, Austria, Silesia, and Hungary, all contributing specimens of their products, whether the results of tillage occupation, or of forest management.

The former comprised specimens of the various grains and their flours, small seeds, roots, fodder plants, flax, hemp, wools, wines, oils, &c., while the latter, the forest products, were even more largely represented than those before described. Some of the specimens of timber sent were of magnificent proportions; for example, the boll of an ash tree 46 ft. long, with a diameter of 80 inches at bottom and 75 inches at top, and containing 366 cubic feet of timber. The tree was 140 years old and contained altogether 931 cubic feet of timber. Sections of an oak 250 to 300 years old, 117 feet high, and containing 1,040 cubic feet,—of beech, 135 years old, 83 feet high, and containing 234 cubic feet,—of alder, 106 years old, 86 feet high, and containing 242 cubic feet,—and of a yew tree, 337 years old.

In the collective exhibition of the Teutonic "Ritter Order," specimens were exhibited of different timber trees growing at different altitudes, as illustrating the effect of climate on the growth of forest trees.

	Age.	Circumference.	Altitude in feet.	Contents in cubic feet.
Maple	130	5·75 feet.	2,200	154
Red Beech	184	9· „	2,100	398
Red Alder	135	4·5 „	1,200	65
Silver Birch	70	4·5 „	2,000	60
Firs	170	10·3 „	2,060	466
„	240	6·3 „	4,000	59
Pine	320	20· „	2,600	1,120
Larch	180	9· „	2,000	189
Scots Fir	110	6·5 „	1,300	143

Sections were shown also of trees of the same genus, but of different ages, growing in the same soil, and under the same conditions.

Pines ..	100 years old,	containing 61·5	cubic feet of timber
„	90 „	53	„
„	80 „	47	„
„	70 „	42	„
„	60 „	34	„
„	50 „	27·5	„
„	40 „	20·5	„
„	30 „	14·5	„
„	20 „	8	„
„	10 „	2	„
Firs ..	100 „	47·3	„
„	90 „	37	„
„	80 „	26	„
„	70 „	18	„

Firs	60	years old, containing	12	cubic feet of timber.
,,	50	,,	8·5	,,
,,	40	,,	6·8	,,
,,	30	,,	4·5	,,
,,	20	,,	2	,,
,,	10	,,	0·5	,,
Red Beech	100	,,	34·6	,,
,,	90	,,	26·8	,,
,,	80	,,	22·	,,
,,	70	,,	18·	,,
,,	60	,,	12·5	,,
,,	50	,,	7·5	,,
,,	40	,,	3·5	,,
,,	30	,,	1·6	,,
,,	20	,,	0·7	,,
,,	10	,,	0·15	,,

Collections of woods, with examples of the various uses and purposes to which they were applied, were exhibited, as also a very instructive series of the various forms of injury to which forest trees were liable, and of the insects, or fungoid parasites causing them.

The extensive collection of Baron Sina-Simon, the products of his estates in Lower Austria, Moravia, Bohemia, and Hungary, deserves more than a passing notice. The whole was well arranged, and comprised representative series of both agricultural and forest produce. The large and comprehensive display of well-nigh every variety of agricultural produce from the Military Frontier, deservedly excited much attention. Each regimental district furnished its contribution, and competed in friendly rivalry with its neighhours in the selection and display of its produce. This formed a very interesting part of the Exhibition, as it showed how readily the soldier on permanent outpost duty falls into the routine life of husbandry, and how his spare time can be rendered profitable to himself, and directly serviceable to the community at large. Specimens of the forest products of the different stations were also shown, but these were necessarily, from the nature of the country, on a more limited scale.

Excellent collections were exhibited by many of the District Agricultural Associations of different parts of the Empire, the Carinthian Sericiculture Association contributing a large collection of cocoons and of silk, in its various stages of preparation.

GROUP IV.

Beverages and Fruit Tree Cultivation.

The soil and climate of Austria are very favourable to the cultivation of the vine; her natural conditions clearly qualify her as a great wine producing country. Although the wines of Austria were almost unknown in this country before the great Exhibition of 1862, the large area of land under vineyard culti-

vation, and the numerous districts of the Empire, where this branch of agricultural industry is carried on, have long testified to its magnitude and importance.

Hungary, Lower Austria, and Styria, are the principal wine-producing provinces of the Empire. No wine is made in Upper Austria, Salzburg, Silesia, and Galicia, and only a very small quantity in Carinthia and the Bukowina. The finest qualities are produced on the slopes of the Hegyallya hills near Tokai, and stretching on to Erlau; in the tract of the valley of the Elbe, from Melnik and Cernosek downwards; in the district round the Neusiedl lake; on the heights near the middle Danube, together with St. Georgen, Neszmil, Buda, Szekszard Villány, up to Schomlau and Menesch; the Fruska Gora up to Karlowitz; the Kahlengebirge, Vöslau, Gumpolds Kirchen, Grinzing, and Weidling; the Bisamberg; in the vallies of the Drave and lower Mur, including Kerschbach and Luttenberg; and on the southern slopes of the Karst, and the Istrian and Dalmatian Coasts. The total average produce is estimated at 32,936,941 eimers per annum, of which more than one-half (54 per cent.) is made in Hungary alone.

In 1864 there were 3,177 "Beer Breweries" in operation, producing annually 13,926,983 eimers. Bohemia is the principal beer producing province, where the brewing establishments number 1,026, or 39 per cent. of the whole. In Lower Austria, the proportion is 20 per cent., in Moravia, 9 per cent., and in Upper Austria, 7 per cent. The largest concerns are in Lower Austria, where they average an annual make of 21,901 eimers; in Bohemia, they average about 5,406 eimers each; in Moravia, 4,369 eimers; in Salzburg, 4,224 eimers; in Styria, 3,861 eimers; and in Upper Austria, 3,527 eimers. The number of "Distilleries" for the manufacture of brandy, spirits, and liqueurs, in 1864, was 95,257. Of these 5,793 were regular manufacturing and trading establishments, while 89,464 were on a small scale and carried on in country districts. In Galicia, we find them amounting to 38 per cent. of the whole number; in Hungary, 21 per cent.; Bohemia, 17 per cent.; Transylvania, 8 per cent.; and in Moravia, 6 per cent.

"Cider" is produced in great quantities in Upper and Lower Austria, Styria, the Tyrol, and Vorarlberg.

"Vinegar" is also made largely in these same districts.

"Fruit-tree cultivation" assumes a certain importance in some parts of the Empire, whence the produce, after supplying local consumption, is exported either in a fresh state or dried, to other countries. In 1861–2, after a very unfavourable season, the exports amounted to 320,724 centners, having a money value of 1,500,000 florins.

These classes were largely represented, and samples of all the varieties and qualities of wines and other beverages that the country produces, were exhibited. In the Wine Section, there were no less than 402 exhibitors; 23 in the Beer Section; in the Spirits Section, 124; and in the Vinegar Section, 26

exhibitors; these, with 63 exhibitors of fruit-tree products, make up the large number of 647 exhibitors in the several classes forming the Group.

GROUP V.

Illustrative Collections of Agricultural Construction and Engineering, and of means and appliances for Agricultural Teaching.

If there be one point connected with agriculture which, more than another, excites the surprise of the intelligent traveller, whether he be one of our own countrymen visiting the Continent, or one coming from the Continent to visit us, it must be the great difference in the value placed upon agricultural education, and the public estimation in which it is held in the country he came from, and in that which he is visiting.

In Austria, neither the State nor the public can be charged with indifference to this important claim,—a claim which always remains valid against a country, and can only be delayed at a far more than equivalent cost to its productive industry.

Throughout the Empire special institutions exist for agricultural education, carefully adapted to the several grades of students, and also to the different branches of rural economy. These are supported chiefly by liberal subsidies from the State—by the provinces or districts in which they are located—and (to a small extent) by private means.

Great attention has evidently been paid by the Government for the last few years to the best means of developing and encouraging the education of the proprietors as well as of the tillers of the soil. Existing educational institutions have been re-organized, and new ones established, in the different provinces of the Empire; publications bearing upon farming matters have been promoted and supported by the Land-tags of the several provinces; and premiums have been offered by the State for treatises and text-books suited to the requirements of the respective subjects.

The Higher Agricultural Institutions (höhere landwirthschaftliche Lehranstalten) are situated at Liebwerda, Kolscawska, and Prague in Bohemia; at Dublany in Galicia; at Ungarisch-Altenburg, and at Keszthely in Hungary; and at Kreuz in Croatia; to these the practical division of the Farm Schools at Grossau, and the Farm and Forest School at Graz, may be added. Two other institutions, at Tabor, and Debreczin, are also in process of organization.

Farm Schools (Ackerbauschulen) are situated at Grossau and at Irnharding in Upper Austria; at Liebwerda, Stizer, Hrnholusk, Rabin-Libejie, Kaaden, and Lobositz, in Bohemia; at Prerau in Moravia; at Czernichow in Galicia; at Keszthely and Gros St. Miklos in Hungary; and at Kreuz in Croatia. A farm-school is also in progress of erection at Istvantelek in Hungary.

The "Higher Forest Schools" are situated at Mariabrunn in Lower Austria; at Schemnitz in Hungary; at Anssee in

Moravia; and at Weisswasser in Bohemia. In addition to these a school will shortly be opened at Hinterbruhl near Vienna. For instruction in "Vine Culture" there are special schools at Klosterneuberg and at Krems, in Lower Austria; and also at Buda in Hungary.

Special Schools for "Fruit and Garden Cultivation" are met with at Brunn, Prague, Salzburg, and Lemberg; and for "Bees and Silkworm Management" at Baiersdorf near Graz. A course of lectures on "Bee Management" is also given in Vienna. "Veterinary Schools and Hospitals," with horse-shoeing establishments attached, are established at Vienna, Graz, Laibach, and Pesth.

Regular courses of agricultural lectures are given in the Universities of Vienna and Prag; in the Technical Academies of Vienna, Prague, Brunn, Cracow, and Buda; in the Theological Institutions at Czernowitz, and at Linz; in the Military Administrative Institution at Vienna; in the Gymnasiums at Klagenfurt and at Laibach; and in the Real-schools at Rakonitz, Chrudim, Neutitschein, and Conigliano.

In these various agricultural educational establishments we find no less than 240 teachers regularly engaged in giving special instruction on their respective subjects, to upwards of 2,000 students, of which about 300 are attached to the forest schools. In addition to this large number both of teachers and students, there are about 50 additional teachers and lecturers on agriculture in the universities and general schools, who are attended by about 500 students. Many of these schools, especially those intended for the working class of farmers, are carried on in the language of the province in which they are located.

The subsidies from the State, determined by the claims of the district and the character of the school, vary in amount from 1,000 to 10,000 florins per annum. The costs to the students also necessarily vary; but in all cases they are kept at a very low rate, so as to be quite within the means of the classes the schools are respectively intended for. In the higher schools no arrangements exist for the lodging or board of the students, who provide for themselves in the neighbourhood; in the lower farm schools the necessary accommodation is generally provided, and at a very economical rate. In each class of schools practical instruction is combined with theoretical teaching, due prominence being given to the one or to the other, according to the character and objects of the particular school. Through the kind introduction of Dr. Arenstein I have been furnished by the directors, Dr. Komers and Dr. Masch, with the fullest details of all the internal economy and arrangements of the institutions at Tetschen-Liebwerda, and at Ungarisch-Altenburg. Though these details would no doubt be read with pleasure by those directly interested in the cause of agricultural education, they are too voluminous for a general report. The following outline of the organization of the institutions will give a sufficient idea of their character and capabilities for teaching.

The institution at Liebwerda was commenced in 1850, through the means of Count von Thun-Hohenstein for the instruction of small farmers (Bauernwirthschafter), and shepherds and other employés on large farms. No student is admitted under 16 years of age; an entrance examination must be passed in subjects taught in the elementary schools (Trivialschulen), and certificates given of practical acquaintance with farm work. Youths educated at the Gymnasiums or Real-schools are not admissible. Both in-door and out-door instruction is given daily, the season determining the relative time devoted to each. The farm consists of about 600 jochs. The labour of each student is valued and carried to his account, and thus reduces the cost of his maintenance and instruction. The strong and skilful can generally earn enough to cover their entire expenses; the expenses of the weaker and less able, however, do not on the average exceed 40 florins per year.

The "higher school," which has only quite recently been organised in connection with the original institution, and which receives an annual subsidy of 10,000 florins from the State, is intended for students of better education, and who are to occupy the position of proprietors, large farmers, managers of estates, &c. They must be 18 years of age at entrance, and pass an examination in the subjects taught at the Gymnasiums and Real-schools. They must also have lived at least one year on a farm. The course of study lasts two years, and comprises both lectures and practical work on the farm. It embraces instruction in general agriculture, breeding of animals, veterinary practice, natural history, mathematics and geometry, forestry, garden and fruit culture, agricultural architecture, book-keeping, correspondence, and general estate management, and architectural, engineering, and plan-drawing. A laboratory, museum, and botanic garden with experimental grounds for special crops, are attached to the establishment. The numbers of students for 1865–6 were 25 in the lower school, and 107 in the higher school. The average annual cost of each student in the higher school is 200 florins.

The Agricultural Institution at Ungarish-Altenberg originated in 1818 with the Duke Albrecht von Sachsen-Teschen, the then proprietor of the estate. His heirs, the Grand Dukes Karl and Albrecht continued to support the school until 1848-9, when the political events at that period caused it to be given up, after having during the period of its career, successfully educated upwards of 1,000 students. In 1850, it was re-established by the State as a "higher school," and re-organised under the able administration of Dr. Pabst, from Hohenheim, who held the post of Director until 1860, when he relinquished it on being appointed to the high office which he at present holds. Students are not admitted until they are 17 years of age, and must pass an entrance examination in the subjects taught at the Gymnasiums and Real-schools (including mathematics and the natural sciences). They must also give proofs of a practical knowledge of agriculture. The course lasts two years of two sessions each, and examinations are held

at the end of each session. The teaching staff consists of a director, Dr. Masch, and five professors, with four assistant teachers. The subjects taught by the director and professors are—

1. Anatomy, physiology, and treatment of the domesticated animals. (Dr. Masch.)
2. Chemistry, mineralogy, and geognosy.
3. Practical geometry, botany, and vegetable physiology.
4. Agricultural economy, book-keeping, &c.
5. Breeding, rearing, and management of farm stock, &c.
6. Technology, farm mechanics, &c.

The assistant teachers take charge of—

1. Special agricultural branches, breeding, &c., of small stock.
2. Analytical chemistry.
3. Special cultivation, hops, vine, silk, &c.
4. Buildings, construction, plan-drawing, &c.

Museums, models, and illustrative collections are attached to each department, and a large library is accessible to all the students.

The ordinary course of study for first year's students embraces 24 lectures per week for the winter, and 25 lectures per week for the summer session; for the second year's students, 22 lectures per week for the winter, and 17 lectures per week for the summer session; these include laboratory work and anatomical demonstrations. In each case, however, the intentions of the student as to future occupation are regarded as much as is consistent with the regular teaching of the Institution. A certain portion of each day is spent on the farm, and excursions are made in company with the professors for special objects or for seeing the management of other properties.

The farm attached to the Institution consists of 350 jochs, of which 336 are under tillage, 4 are meadow, and the rest are occupied by the buildings, yards, &c. The soil is light, and the climate dry, the average annual rainfall ranging from 10 to 12 inches in dry, and to 20 inches in wet seasons.

Two different systems of cropping are carried out on the farm. The land of better quality, and that lying nearest to the buildings, is farmed on a nine years' rotation; and that of inferior quality, and that lying at a distance, is farmed on an eleven years' shift.

The rotations followed are,—

1. Beet (for sugar.)
2. Maize (for fodder).
3. Winter wheat.
4. Beet.
5. Barley or oats.
6. Beet and maize.
7. Spring wheat.
8. } Lucern (for fodder).
9. }

1. Vetches (for hay).
2. Winter wheat with seeds.
3. Seeds, fed off.
4. „ „
5. Barley.
6. Maize.
7. Mohar (for hay).
8. Rye.
9. Maize.
19. Winter wheat.
11. Mohar (for hay).

The Director, Dr. Masch, liberally furnished me with the average annual produce per joch of the farm.

	Minimum.	Maximum.	Mean.	
Wheat	10·6	27·5	16·6	Metzen.
Rye	5·7	18·9	15	„
Barley	17	32	24	„
Oats	19·5	29·3	23·6	„
Maize	6	34·8	22·7	„
Beet	200	360	284	Centners.

The live stock on the farm consists of 2 bulls, 20 cows, and 17 young stock. 16 oxen and 10 horses are kept for draught purposes. The sheep stock number 180.

The cows are of the Hungarian and the Lavanthal breeds. By judiciously crossing with foreign blood it is hoped that the stock will be improved both as regards quality and quantity of dairy produce. Sheep were only introduced on the farm in 1865, and only a merino flock is at present kept.

No accommodation exists at the Institution for the lodging or living of the students, who have to provide for themselves in the town or neighbourhood. Ordinary students pay 84 florins for the first year and 42 florins for the second year of two sessions. Six students are admitted on exhibitions, founded by the Archduke Albrecht, of 147 florins each, and a certain number of poor students are admitted free of any charges whatsoever. The number of students who have been educated at the Institution from 1851 to the present year 1866 is 1,258, or an average of 150 yearly. These have been supplied by the different provinces of the Empire in the following proportions:—

Hungary	45 per cent.
Bohemia	16 „
Lower Austria	9 „
Moravia	6 „
Galicia	5 „
Silesia	3 „
Transylvania	3 „
Other provinces	8 „
Foreigners	5 „

The ways and means of the Institution, which have also been liberally supplied to me by the Director, are as follows.

The annual aggregate expenditure averages 50,000 florins.

The revenue consists of—

Proceeds of the Albert Institution, average	1,500	florins.
Students' fees .. .. .. „	5,000	„
Proceeds of the Farm .. .. „	15,000	„
„ Gardens .. „	1,200	„
„ Workshops .. „	700	„
Or in all	23,400	„

The balance or deficiency thus shewn, 26,600 florins, is made up by a subsidy from the State.

Although the organisation and arrangements of many of the other schools differ more or less from each other, there are no points which call for special notice.

The agricultural policy of Austria is to teach the principles of the art in the *first place* by means of its numerous schools, and then, in the *second place*, to develop and encourage the application of these principles by means of its Central and district societies and meetings.

Agricultural societies were introduced into Austria by the Empress Maria Theresa in 1763; and the first regular society was established in Carinthia in the following year. There are at the present time in the different provinces of the Empire 119 agricultural societies and unions with about 80,000 regular members. Of these 52 are specially devoted to husbandry, 10 to forestry, 21 to garden, fruit, and vine cultivation, 10 to horse and cattle breeding and management, 15 to silkworm breeding and management, 6 to bees, and 5 to fish cultivation.

An agricultural society is established in each of the provinces (Kronländer) of the Empire. They are located at Vienna, Prague, Gratz, Pesth, Brunn, Agram, Lemberg, Troppau, Salzburg, Görz, and Laibach.

The most important of these is the Imperial Agricultural Society, the centre and official representative of the agriculture of the Empire. The different provincial societies are all in direct connection with this central society, and their presidents must be chosen from the roll of its members. The district unions (Bezirksverein) receive assistance from the central society towards their local meetings and exhibitions, which, however, appear to be regarded more as holidays for the people than for any very direct advantage they confer on the agriculture of the district.

The Imperial Agricultural Society has 8,463 members, of whom 982 are attached to the central body, and 7,841 to the district unions. The annual subscription is either 50 florins, 25 florins, or 12 florins, according to the class or condition of the member. The privileges, however, of the society are the same to all, and each pays an entrance fee of two florins for his diploma of membership. No subsidy is given by the State; but the Land-tag of Lower Austria provides house and office accommodation, &c., which together are worth from 6,000 to 8,000 florins per annum. The society holds an annual exhibition in some part of the province, and publishes for the benefit of its members and the public,

1. A monthly journal which appears in three parts at intervals of ten days.
2. A monthly journal of practical farming for small farmers, &c.
3. A calendar.

There are at the present time 50 regular agricultural periodicals published, either monthly or weekly; about one-half of which are in German, and the other half in the national language of the province in which they are carried on. For

example, there are 9 in Hungarian, 5 in Czech; 3 in Italian, 2 in Polish, 2 in Croatian, and 1 each in Sclave, Serb, and Ruthinian.

The many interesting and important objects and collections exhibited in this Group and the manner in which it was generally illustrated, claim the selection of a few of the most noteworthy for special remarks.

The Apothecaries' Company exhibited a fine collection of 900 species of woods, chiefly used for pharmaceutical or technical purposes, with cross-sections showing the grain, and all duly named. Also a very large and valuable herbarium of plants, both those cultivated for food or useful purposes, and those uncultivated, as weeds.

From the Imperial Zoological Cabinet was contributed a collection of all the insects found in the Austrian Empire, arranged and classified, and their habits, functions, and localities described. They were admirably mounted and displayed in 17 cases.

The Engineers and Architects Association exhibited a fine series of specimens of 600 stones suitable for different purposes of construction. They were all cut into cubes with one face worked smooth to show the surface it would take. They were divided into groups, and so described as to facilitate the selection of the stone by the builder according to the nature of the work, the cost of the material, and the locality where it could be obtained.

The Agricultural Institution of Ungarisch-Altenberg exhibited a well-arranged and comprehensive series of farm produce, with specimens of their technical applications; a series of samples of soils and of manurial substances, with their analytical composition, &c.; affording, in fact, a short course of eye-lectures on the soil and its various products.

The Imperial Geological Survey sent a series of their maps, illustrating the various geological formations by specimens of the fossils found in them. The Survey is still in active operation, and the sheets exhibited showed the great progress that had been accomplished by the Survey since they were exhibited in London, in 1862.

Marquardt and Co., exhibited a wooden building fitted up entirely with, and containing numerous other specimens of, their work. The woods used were of first-rate quality, and the make and finish were unexceptionable. These machine-made doors, sash-windows, &c., were, considering their quality, extremely cheap. Single doors, 3 × 6·6 feet, with jambs and fittings complete, were sold at 14·70 florins, about 29*s.* each. Sash-windows 3 × 6 feet, with frame and fittings complete, at 18 florins. Cottage windows, of small size, were marked as low as 1·80 florins each. Large folding doors in mahogany and other costly woods, with suitable fittings, were supplied at from 200 to 600 florins, according to the quality of the work and richness of the ornamentation.

A large series of specimens of the manufactures of the Slate Works, at Mariathal near Pressburg, were exhibited. This is an

industry which has been largely developed within the past few years, and which assumes larger proportions each year as its claims become better known. Formerly all the school slates of Austria were imported either from Bavaria or this country; now, in addition to the larger articles supplied, not less 3,000,000 of writing slates are turned out from this establishment each year. It appears that this slate contains about 7 per cent. of lime in its composition, which renders it particularly suitable for writing purposes; the frames, whether in wood or tin, are all made and fitted by machinery at the works, and the low price they are sold at ensures a good sale. The price, per 100, of the following sizes, suitable for our schools, and of the best quality with hard-wood frames and packed in cases for exportation, is only—

6 × 9 inches	3·22 florins	=	6*s.* 6*d.*
7¾ × 11¼ „	6·50 „	=	13*s.* 0*d.*
9⅜ × 14 „	10·50 „	=	21*s.* 0*d.*

Specimens of manufactured cements were exhibited from the works of Dr. Curtl at Muthmansdorff near Vienna-Neustadt, and by A. Saulich from Perlmoos, near Kufstein in the Tyrol, made from natural rocks of the transition series. The reputation of both the works stands very high. At Muthmansdorff the annual manufacture is about 2,500 tons of Portland, and 10,000 tons of hydraulic lime. The selling price for the Portland is 2·75 florins, or 2*s.* 9*d.* per centner. The Perlmoos Works are not on quite so large a scale, but the goods are sold at the same price in the market. Altogether there are about 200 cement works established in Austria.

The terra-cotta wares from the works of Mr. Brousewetter, at Wagram, were remarkable for their hardness, good colour, and excellent patterns.

The specimens of building bricks exhibited by Mr. Drasche, though comparatively insignificant in themselves, represented a most important branch of industry, carried on by the exhibitor to a greater extent, probably, than exists in any other country in Europe. The bricks which are of a larger size than ours, 12 × 5 × 2½, are all made by hand, and I was assured by one of the managers of the works, that the annual make amounted to the enormous number of 300,000,000. About 4,000 persons are employed all the year round, at an average rate of wages of 6 florins per week. The moulding, &c., is by the piece, the price paid being about 2 florins per 1,000, from the clay to the kiln. The number made by each moulder averages only about 2,000 per day. The selling price is 18 florins per 1,000 for plain, and 24 florins per 1,000 for perforated bricks.

Mr. Drasche has established schools, hospital, and relief funds for his numerous dependants and their families. He has tried most of the different machines that have from time to time been introduced for brickmaking, but has not found any to answer his purpose. The bricks exhibited had not the hardness and finish of our best "stocks," while their size and weight would appear to

render them less handy for ordinary work. Probably this difference may also account in some measure for the comparatively small number turned out by each moulder per day, which is only from one-fifth to one-fourth that of our brickfields,* while the larger size (cubical contents) of the Austrian brick, compared with ours, is only 2-5ths, or as 5 is to 3.

Millstones were exhibited from the quartzose quarries at Zwetti, in Lower Austria; from Szegi Long, near Tokai, in Hungary, where the rock is of a freshwater volcanic origin; and from a freshwater quartzose deposit at Krems, in Lower Austria.

The stones made at Zwetti were not equal to the others; the stone was hard and compact, and suitable for coarse grinding. The Hungarian stones were very good and well made, and were built up to the larger sizes used. They have a very good reputation, and the large sizes, —from 36 to 48 in. diameter,—are sold at from 180 to 240 florins the pair. The freshwater stones from Krems, however, were superior in quality to any of the others. These closely resemble the French "Burrs" in their physical characters, and are indeed preferred to them by the experts and millers for their first-class flours; and the Vienna flours rank second to none in quality and fineness of touch. Though extremely hard and tough, the stones can be readily dressed with the ordinary tools for such purpose. The large sizes,—4 feet diameter,—are sold at from 200 to 300 florins, or 100 florins less than the cost of the French "Burrs."

The pottery manufactures from Zahbelitz, near Prag, were of excellent quality. Samples of various descriptions of pipes, jars, and other utensils, of various sizes, were exhibited. Amongst other wares was a cylinder 6 feet in diameter, with 4 in. sides, and perfectly sound throughout. The goods were of a rather dark colour, and glazed with the common salt glaze.

Specimens of native marbles were exhibited from the Salzburg district, and from the Italian provinces. Both collections contained beautiful specimens, and were extremely well arranged. The Salzburg and Tyrol marbles take a capital polish, and are largely used for internal ornamental work in many of the public buildings, such as staircases, balustrades, floors, and panelling.

The collection of Italian marbles sent by Mr. Offnich, of Trieste, contained a large number of samples of different values and uses. Some were extremely beautiful, and suitable for the choicest applications; others were adapted for internal ornamental, as well as useful work; others, again, though in themselves of excellent face and quality, were offered at prices sufficiently low to recommend them for use even as pavement in the ordinary thoroughfares. A portion of Graben, one of the principal street resorts in Vienna, has been paved with one of these marbles, laid on a concrete bed, at an inclusive cost of 30 florins the square klafter = $4\frac{1}{4}$ square yards English. These marbles could be delivered in blocks of 20

* Good moulders in many of our brick-fields turn out from 8,000 to 10,000 a-day. This past season, in more than one case which I met with, upwards of 1,000,000 had been made by one moulder.

cubic feet, at prices varying from 1½ to 4 florins per cubic foot, free on board ship.

The specimens of manufactures in gypsum, from Mödling near Vienna, suitable for horticultural ornamentation purposes, were both artistic and cheap.

The slate manufactures from Olmutz and from Waltersdorff were very well represented. Roofing slates of good quality, and of all suitable sizes, were exhibited, and specimens of various other uses and applications of the material. Some slabs, suitable for tanks of large size, and a circular table top, 7¼ feet diameter, were exhibited.

The fire-bricks and lumps manufactured from "magnesite" at Brunn, in Styria, and the ornamental manufactures in clay of Anton Richter, of Prague, including flooring tiles, mosaic and tesselated work, were both good in quality and reasonable in price.

The State Railways Association contributed a large and instructive series of specimens of the various coals and peats met with in the Austrian Empire. These were classified, and described according to their natural characters, localities, and suitability for different purposes, as railway, metallurgic, or general domestic use. The large use of peat for locomotive fuel in Bavaria invested these collections, in a country where mineral fuel is not abundant, with a more than ordinary interest.

GROUP VI.

Specimens of Manufactures required for Household Purposes.

The objects exhibited in this group were only connected in an indirect manner with agriculture, the great object of the meeting; as, although the primary materials themselves, forming the basis of the different manufactures, proceeded without doubt from the soil, still the interest they possessed, and their entire value, was due, in almost every instance, to the fashion and work bestowed upon them by the labour and skill of man. As minerals and their products came under one of the classes of this group, the following statistics of the coal produce of the Empire may perhaps suffice, without venturing any remarks at all upon the general objects exhibited in the group. The group was generally well represented, no less than 730 exhibitors displaying their various manufactures.

Coal of various descriptions is found in many provinces of the Empire. The regular coal is met with in deposits of some magnitude in Bohemia, Silesia, Moravia, Hungary, and Western Galicia. Brown coal (lignite) of different ages is met with in large quantities in the tertiary deposits of Bohemia, Moravia, Styria, Upper and Lower Austria, Hungary, Transylvania, Carinthia, Carniola, and Galicia; and in smaller quantities in most of the other districts of the Empire. Anthracite is sparingly met with, and only worked on any scale at Turrach, in Styria, where it is used for ironmaking purposes.

In 1864 the entire quantity of coal obtained amounted to 83,233,960 centners, of which 45,291,953 centners were of regular coal, 18,850 centners of anthracite, and 37,923,162 centners of brown coal. The aggregate value was estimated at 14,000,000 florins.

GROUP VII.

Farm Stock, including Horses, Horned Cattle, Sheep, Swine, and Fowls.

The animals comprised in this group represented so directly the material interests of agriculture, and appealed so directly to the feelings of the great mass of the community, that they attracted greater attention, during the few days they were exhibited, than was bestowed on any other part of the Exhibition. The arrangements for the accommodation of the horses and cattle were generally good; well-boarded shedding, with ample supplies of litter, water, &c., secured their comfort, as far as the unusally inclement state of the weather would permit. The statistics of the agricultural live stock have already been given at page 9*, as also have the successive periods at which the different divisions of the stock were exhibited.

The horses were divided into three classes, viz.:—

1. Stud horses and mares, not over 6 years old.
2. Agricultural horses and mares, not over 6 years old.
3. Native working horses.

There were 325 exhibitors in this class, which was considered as a very good representative collection of the horseflesh of the Empire. Amongst them were many of the highest nobles of the land, and at the same time many peasants and small farmers also. The Archduke Albrecht, Prince Liechtenstein, Prince Fürstenberg, the Duke of Saxe Cobourg-Gotha, Counts Larisch-Monnich, Bathyani, Wimpfen, and others whose names are equally familiar to English ears, contributed specimens of their studs. Probably the main interest was centered in the stallions and mares sent from the different military breeding establishments. The studs at Mezöheygés, Radauz, Kis-Bér, Babolna, were well and largely represented, and exhibited with that care and attention to external appearance which are always appreciated on such occasions.

There do not appear to be any very distinct native breeds in Austria; the character and value of the horses exhibited being mainly derived from the foreign blood with which they had been

* The relative proportions of the horse stock are as follows:—

Stallions	83,689
Mares	1,425,221
Geldings	1,453,335
Foals under three years	578,399
The average yearly produce is estimated at (foals) ..	320,000

crossed, the most prominent being that from our own country. Some of the agricultural horses greatly resembled our Suffolks, both in shape, size, and colour; with, however, better feet.

Several specimens of a native breed of ponies, peculiar to Galicia, were shown. They are well ribbed, compact, and powerful animals, from 12 to 14 hands high, but have the character of being slow and heavy, which their appearance indicates. The general colour is dark brown or black with white spots all over the body and neck. The largest proportions of the horse stock are met with in Hungary, Croatia, Sclavonia, Galicia, and the Military Frontiers, and the smallest proportions in the Tyrol and Vorarlberg.

The cattle classes were generally well represented, notwithstanding the partial blanks that occurred, owing to the impossibility of obtaining railway transport for many animals that were entered for exhibition from the different provinces lying towards the Prussian and Italian frontiers. The classes were divided so as to bring together for competition those breeds most allied to each other; and separate prizes were given in each to the bulls, the cows, and the calves.

The sub-classes were:—

1. The Hungarian and Transylvanian breeds and their crosses.
2. The Styrian and Carinthian breeds and their crosses.
3. The Tyrolese and Salzburg breeds and their crosses.
4. The Swiss, Allgauer, and Montafuner breeds and their crosses.
5. Other native breeds and their crosses.
6. Working cattle.
7. Fat cattle, large breed.
8. „ small „

There were 592 exhibitors in all, several of whom, however, as already stated, were not able, owing to the difficulty of railway accommodation, to forward their stock to the meeting.

The exhibition of superior representative specimens of so many distinct native breeds of cattle gave greater interest to these classes than to the preceding, especially in the eyes of those who think that a country's wealth and strength is more dependent upon its productive powers than upon its military resources. The statistics of the cattle stock of the Empire are given at page 9,* of these more than 50 per cent. are met with in Hungary, Bohemia, and Galicia. Rarely out of our own country do we find the same amount of care and attention

* The relative numbers of the cattle stock are:—

Bulls	107,935
Oxen	3,148,672
Cows	6,354,155
Heifers, &c.	4,647,885
Average annual produce (calves)	3,500,000

bestowed on the preparation of stock for exhibition that we are accustomed to at home. This difference in treatment has its advantages as well as its disadvantages. The animal is shewn in its natural every-day condition, with all its points, good or bad, fairly exposed, and its merits or defects open to an easy judgment. It has not been forced by early and rich feeding to assume abnormal proportions or an undue maturity, too often at the cost of its natural powers, but stands as the honest representative of what it professes to be, and visibly justifies the value that is put upon it. At the same time the unprejudiced visitor from England must, without attempting to defend the exaggerated mode of preparation at home, observe the general depreciation which stock of any sort undergoes when exhibited without that due attention to condition and cleanliness with which all stock properly cared for ought always to be treated. These are indeed points which, though frequently sadly neglected, are as liable to affect the general health and vigour of an animal, as is overfeeding, though in different ways, and certainly claim attention from the owners of stock in the Austrian Empire.

It is not possible, neither is it necessary, to go through the several divisions of the various classes; the following sketch of the distinctive characters of the principal breeds will give some idea of the cattle stock of the different provinces of the Empire.

The native Bohemian breeds exhibited were the Bohemian, the Egerland, and the Hlisover. The Bohemian are of good size, without horns, red and white colour generally, and reputed to be good milkers. The average daily milk produce of the dairy cows sent from the herd of Prince Liechtenstein, was stated to be nine Vienna mass* = to 22½ pints English each. A black cow, exhibited by Carl Bubeniezek, gave 6,200 pints yearly. The Hlisover breed is of large size, all white in colour, and much esteemed for its working properties. The Egerland breed is of small size, generally of a dark red, or reddish-brown colour. The milking qualities of the cows were not specially stated.

The Allgauer, Mariahofer, and Murzthaler, are the principal native breeds of Styria. These are all celebrated for their milking properties, and produce some of the best dairy stock of the country. The Allgauer greatly resembles our Jersey breed, brown, reddish or dun and white in colour, of a good size and shape, excellent handlers, and good milkers. A cow exhibited by Mr. Wührer gave 18 mass = to 45 pints a-day after calving; and another gave an average produce of 10 mass = to 25 pints daily throughout the milking year. The Mariahofer breed is of a creamy white colour, larger and more bony in frame than the other breeds, and appears to be more suited for draught than for dairy purposes. Some fat stock of this breed exhibited were well shaped, and showing good points for feeding purposes. The Murzthaler breed is of good size, of a light grey colour and has the reputation of producing good working, as well as

* The Vienna mass is equal to 2·5 pints (English).

milking, stock. The breed is very prolific. One cow was exhibited by Count Hompesch that had been put to a Swiss bull, and produced three heifer calves; and another which had reared seven calves in three years. The milk produce of several of the cows was given. The best gave from 10 to 15 mass = to 25 to 37 pints per day; others gave from 1,200 to 1,600 mass = 3,000 to 4,000 pints in the course of the milking year.

The principal native Salzburg breed is the Pinzgauer. This is an excellent sort of cow, especially for hilly districts. They are of medium size, with good barrels on short legs, of a dark red or reddish brown colour, and bear a marked resemblance to our Devons, save in the horns, which are not so long nor so open. They are all good handlers and good milkers. Two cows, belonging to Mr. Hoffman, were excellent specimens of the breed, and were exhibited in a very creditable manner. The general milk produce of the breed was given at from 10 to 14 mass = 25 to 35 pints per day; or from 1,000 to 1,200 mass = to 2,500 to 3,000 pints in the year. A Pinzgauer cow, the produce of a cross with the Innthaler (Tyrolese) breed, gave a yield of milk equal to 6,380 pints per annum.

The Tyrolese and the Montafuner are the principal native breeds of the Tyrol and Vorarlberg. The old Tyrolese is of a medium size, red and white in colour, but somewhat deficient in those points which mark careful selection in breeding. They have the reputation of being good milkers, and suited to the country in which they are principally met with. Their average milk produce was given at 5 mass = $12\frac{1}{2}$ pints per day. The Montafuner breed is of a better stamp altogether. The cows exhibited were of good shape and larger size, and the oxen made very excellent beasts for the butcher, as well as for draught purposes. The general colour was dark mouse or greyish brown. They are much esteemed as dairy stock. A cow exhibited by Mr. Sothen, was stated to have given 2,960 mass = 7,400 pints in the course of the year.

The native breeds of Carinthia are the Mollthaler and Lavanthaler. The Mollthaler breed is small in size, of a red and white colour, with the reputation of being a good dairy breed. The average milk produce of those exhibited was from 1,000 to 1,400 mass = 2,500 to 3,500 pints per annum. The Lavanthaler breed is of a large size, pure white or creamy white in colour, with large wide-spreading horns. The oxen are valued for their draught powers; they also feed well, and are much sought for by the butchers. Some excellent specimens of this breed, comprising bull, cows, calves, and fat stock, were exhibited by the Higher Agricultural School at Ungarisch-Altenburg; their dairy returns giving an average yearly yield of 1,162 mass = 2,855 pints for each cow of their herd.

The only native breed of Moravia was the Kuhlander. This is also of good size, roan or speckled red colour, with a fine skin, and handling well. The breed is noted for its milking properties. A cross between a Kuhlander cow and a Bernese bull gave the

largest milk produce of any of the cows in the show yard. She was exhibited by Mr. Franz Orlando, and was stated to have given in 1864, 4,800 mass = 1,200 gallons, and to have continued to milk 8 mass = 20 pints per day up to the present time, although she has not calved since 1863.

There were several specimens of oxen of the native Hungarian breed, but no pure bred cows. The breed is of large size, greyish white in colour, with enormous wide-spreading horns. The oxen are esteemed everywhere for their hardiness, and working qualities: they are quick walkers, and equal to heavy draught. They are generally worked up to nine or ten years old, and then put up to feed (!) The fat beasts exhibited, were really good market specimens, with large frames, well covered, and from six to eight years old. In one which was measured, the distance from tip to tip of the horns, was very nearly 6 feet. The lot of six beasts were sold for 2,000 florins. A cross between the Hungarian cow and Dutch bull gave a milk produce of 17½ mass = 44 pints per day.

There are several foreign breeds met with in the different provinces of the Empire, kept either pure or for the purpose of crossing with the native breeds. Of these, the Swiss, the Bernese, the Oldenburg, and the Dutch, appear to be the most esteemed. The Short-horn has hardly at present found its way into the Austrian dominions. The only specimens of the breed in the show yard, consisting of a young bull and two heifers, were exhibited by the Archduke Albrecht. As the great natural resources of the Empire become more developed, and the industries based upon them afford a more remunerative employment to the people than agriculture gives, the ox will no doubt be valued as much for its food producing, as for its working properties, and then the cross with the Short-horn will become better known, and the breed be valued as it is in other countries into which it has been introduced.

Some of the crosses of the native cows with foreign bulls gave very large milk returns, averaging in many instances from 15 to 20 mass = 37 to 50 pints per day. Two cross-bred cows exhibited by the sugar factory at Sassiner, gave respectively 2,145 and 2,230 mass = to 536 gallons and 557 gallons per annum.

The "Sheep" classes clearly constituted the chief object of attraction of all the live stock, to the higher class farmers, and those directly interested in the objects of the meeting. Sheep monopolize, to a great extent, the attention of Austrian farming. While the "horse" classes gave but slight evidence of attention to purity of breed and development of form and points for particular purposes, and while the "cattle" classes, though interesting in themselves from the specimens of the different breeds exhibited, conveyed the idea that very little had been done in the way of careful selection and breeding towards their improvement, the careful manner in which the sheep were displayed, and their respective pedigrees and good points made known, showed at once how much they were valued, and clearly indicated the position they occupied amongst the live stock of the farm. Although the sheep stock of the Empire is almost limited to a single breed, the "Merino,"

still by attention to breeding and crossing with the same sheep of other countries, a number of varieties have been established, which are very distinct in their characters and are kept so by that attention to selection as regards purity of breed, form, and constitution, that has led to such good results in our own flocks and herds. These good results have not been wanting to Austria; for many years past she has stood in the first rank amongst the fine-wool producing countries on the Continent, and the specimens exhibited fully represented the quality of her flocks, and showed how well they deserved the high reputation they had achieved. There were very few specimens of cross-bred sheep exhibited. These were confined to crosses—between the Merino and the original breeds of the country—the Merino and the Zealand—and the Merino and the South Down. There were also some pure-bred sheep of the last-named breed exhibited by the Archduke Albrecht from his estates in Galicia, by Prince Salm-Reifferscheid, and by Count Fries. The crosses with the native sheep were contributed from the flocks of the Military Frontier Stations of Andrée, Draskovié, Herak, Mudrenié, Stolievié, Stoschié, Thyrié, Wiegert, and Zivèle, from each of which specimens were sent. The most approved varieties of the pure Merino breed are the Electoral, the Negretti, the Electoral-Negretti, the Rambouillet, and the Métis Merino,—all of which were well represented in the show yard.

This class was a large one, comprising the animals of nearly 200 exhibitors, the greater number of whom sent several specimens of rams, ewes, and lambs from their respective flocks. In the list of exhibitors will be found the names of most of the leading nobles of the land who have identified themselves with the advancement of its agriculture; and all appeared to have a practical acquaintance with the objects in which they had interested themselves.

The statistics of the sheep stock of the Empire are given at page 9. Of these, about one-half are met with in Hungary. Bohemia and Transylvania contain large proportions, while Moravia, Silesia, and Galicia are more noted for the quality of the breeds and of their wool produce, than for the extent of their flocks. Although no statistics are given as to the relative numbers of the males, females, and young sheep, it is estimated that the number of lambs dropped, is about 5,000,000 per annum.

In Austria, the value of the sheep is centred in its wool produce, the flesh being but little esteemed, and rarely used as an article of food. But a small amount of attention is therefore paid to the shape and structure of the animal; a large loose skin well covered, even down to the very hoofs with wool, is the desideratum, and that has been satisfactorily obtained. Among the smaller farmers, the pernicious practice of regularly milking the ewes still prevails; this, while stinting the offspring, not only has a tendency to check the physical development of the ewe, but also to deteriorate her wool produce in its quality as well as quantity. In most cases, especially as regards the flocks of repute, the weight of the wool produce was given. From the statements given

with the various animals exhibited, the weight of fleece of the rams appeared to average from 6 to 8lbs.;* that of the ewes from 1½ to 3lbs., and of the fat sheep from 3 to 7lbs. each. A ram of the pure Rambouillet breed exhibited by Mr. Wallner, was stated to clip 12 to 14lbs., and a ewe of the same flock 7 to 9lbs. while the average wool produce of the extensive flocks of Count Larisch-Monnich, consisting of 26,000 sheep of the Electoral-Negretti breed, was given at 2¾lbs. only. A South Down ram and ewe exhibited by Count Fries clipped 12lbs. and 11lbs. respectively.

In going through the numerous pens of sheep, representing the best flocks and the choicest blood of the Empire, one could not but be struck by the great care and attention that must have been bestowed upon them to produce such admirable results. At the same time, I must avow that the same doubts crossed my mind, that I have ventured on more than one occasion already to express,† as to whether the Merino is after all the most profitable breed of sheep for Austrian farming. If a strict debtor and creditor account were kept between the cost and the returns of a flock of Merinos and a flock—say of South Downs or Leicesters,—there can be but little doubt that the earlier maturity, and the larger wool and meat produce of the latter, would leave a considerable balance in their favour over their competitors. The average clip of a Leicester flock would be about three times the weight of that of Count Larisch-Monnich's flock, while the meat produce would be in about the same proportions.

The only advantage in favour of the Merino is the finer quality of the wool. Formerly this was an object of far more importance than at the present time, and each year tends to lessen its value. Fine-wool cloths are everywhere being displaced by fabrics of a more useful and cheaper class, the object of the manufacturer now being to supply the million rather than the few. Besides which, a formidable rival has of late years appeared in the fine-wool markets of Europe, a rival which possesses as good a soil and a better climate for their production than is to be met with there, a rival that will sooner or later enforce a change in the sheep farming of the Continent. France has already acknowledged this fact; and by a timely and judicious crossing of her fine-wool Merinos with the Leicester and other English breeds, has met the demand of her prospering industries by such an increased production of wool and meat, as to place both within the reach of those who, without this improved treatment, could not have enjoyed them. The manufacture of "lustre goods" has of late years greatly increased, and with it as a consequence, the demand for long "combing" wools, while the use of fine "carding" wools remains restricted to a comparatively limited class of goods. Whatever the demand, however, for fine wools may be, the facilities of intercommunication and transport are

* The Vienna pound is equal to 1·23 lbs. (English.)

† "On the Agriculture of the French Exhibition." A. and C. Black. Edinburgh. 1855.

now so great, and the cost so reduced, as materially to neutralize the advantages of local production, and thus to open the markets everywhere to the cheapest producer. The circumstances must indeed be exceptional, under which the continent of Europe can compete successfully in fine-wool production, with the finer climate and illimitable pastures of Australian England.

The "Swine" classes were very scantily represented, notwithstanding the large number of pigs kept in the different provinces of the Empire. The statistical returns are given at page 9, the young pig produce being estimated at 12,000,000 per annum. Of these, by far the greater proportions are met with in Hungary, Galicia, Bohemia, the Military Frontier, Styria, and Transylvania. Neither there, nor in any of the other provinces, is there anything in the shape of a good native pig to be met, the native breeds are deficient in all those points which advanced farming looks for in its animals generally, but especially in its pigs.

The horse is a necessary part of the machinery of a farm, and gives a good return in the shape of work, the cattle and the sheep stock give a return in labour, milk, and wool, in addition to their flesh produce, while the only return that the pig gives is the mere dead weight of his carcase. Surely there is great call for, and room for improvement in, an animal which gives such a limited return. This is more called for, and would be more easily effected in the pig than in most other animals, because attention would only have to be paid to one point, that of improving the shape, size, and maturity of the carcase. For this purpose no doubt some of the breeds of our own country would be well adapted; and judging from the few specimens of English breeds and their crosses in the show yard, the experiment is being tried with every prospect, nay certainty, of success.

There were only about 24 exhibitors in this class, many of them, however, occupying several pens with their stock, most of the best specimens of which were imported or descended from English blood. The principal contributors were the Archduke Albrecht, Count Thun-Hohenstein, and Baron Washington,—the favourite breeds appearing to be the Windsor, Suffolk, Essex, and Berkshire.

The "Fowl" classes were also very poorly represented. The collection of one exhibitor, Baron Washington, was well-nigh as numerous, as it certainly was superior, in the description and condition of its birds, to the rest of the class. The statistics of poultry produce are given at page 10.

GROUP VIII.

Fish and Fish Breeding Appliances.

The arrangements for displaying the objects constituting this class were extremely interesting. Specimens of all the principal freshwater, lake, and river fish of the Empire were exhibited in

suitably sized tanks, grouped together, according, as far as practicable, to the nature and habits of the fish, in a tasteful manner round a central "hydrant," or fountain, from which a flow of fresh water was continuously falling into the tanks containing the fish. Thus the water was well aërated and kept constantly fresh and in motion, whereby the fish were sustained in good condition, notwithstanding the limited area of their prison. Each morning the sickly were removed and fresh fish substituted, so that the supply was always kept in vigorous condition. Round these tanks were suspended the nets and other appliances of fisheries on a large scale, the uses of which were explained by the stalwart and obliging water-keepers of Prince Liechtenstein and Prince Schwarzenberg, who contributed largely to this, as indeed they did to the other, portion of the Exhibition.

An apparatus for artificial fish breeding was also exhibited on a small scale. In this department of production Austria has made but small progress as yet. The facility, however, with which the process is carried on, the small outlay requisite, and the enormous river and lake areas the country possesses for the reception of the young fish, will no doubt soon excite public attention, and secure for it a regular and defined place amongst the food manufacturing processes of the country.

At present Salzburg is the only province in which the artificial breeding of fish is carried on. For centuries past great attention has been paid in Austria to the natural propagation of pond or still water fish. Formerly this was most encouraged in Bohemia and Moravia, then in Silesia and in Upper Austria. Latterly, however, it seems to have been to a great extent neglected in the other provinces, and confined chiefly to Bohemia, where, at Wittengau and the neighbourhood, it has its centre, and is still carried on on a considerable scale. The chief fish in the ponds is carp, which is fed to a large size.

The rivers and lakes still yield, however, the largest returns. The country contains not only many excellent fish rivers, but also many lakes, both in the mountainous and level lying districts. Increasing traffic on the rivers, and the use of the water for power purposes, appear to have been followed by their usual consequences—a diminution in the supply of fish.

Sea fishing is carried on to a considerable extent along the shores of the Adriatic, and of the islands of Lissa and Lessina, where for ages past it has been followed as a regular industry. Along the Dalmatian and Istrian coasts the "tunny" fishery is the most important, and gives employment to a large population. Anchovies are obtained in great abundance on the Istrian coast and the island of Sansego, as well as on the coast and islands of Dalmatia. Sardines and oysters are fished chiefly along the Dalmatian coast. A special school for instruction in oyster cultivation has recently been established at Trieste.

The statistics referring to the fish produce of the Empire will be found at page 10.

GROUP IX.

Dogs.

This group was divided under the three following classes:—
1. Sporting dogs.
2. Useful dogs.
3. Fancy dogs.

These were again subdivided according to the varieties of the animals and purposes for which they were used. This was, I believe, only the second show which had been held by the Imperial Agricultural Society, in which dogs were allowed to be exhibited, and so far was considered as a success, both as regards the number of exhibitors—some 340—and the quality and varieties of dogs sent. Should the success achieved on the present occasion obtain admission for dog classes at future shows, the Executive Committee will, no doubt, make better provision for exhibiting them in a suitable manner than was afforded by the sheep pens in the show yard, which were too low and too difficult of access to allow the dogs to be properly inspected. Very many of the dogs, especially in the "Sporting" classes, had an English cut about them that could not escape the eye of the stranger visitor; indeed this look seemed to pervade most of the classes from the bull-dog down to the Skye terrier. The same specimens of canine deformity and stunted monstrosity were to be seen at Vienna as at our own shows—there, however, attention was more specially called to them by the presence of their owners (almost invariably ladies) who sat by their pampered "pets" and watched them with tender solicitude.

An industrial exhibition of any kind, drawing to a common centre persons engaged in the same craft, and enabling them to see each other's work, and compare notes of each other's proceedings must always be followed by good to those who take part in them, whether as direct contributors or as visitors merely. In no department of industry is this more marked than where agriculture is the object of the meeting, and to no class of the community are such meetings of so much value as to that connected with the tillage of the soil.

Notwithstanding the locality of the meeting, Vienna, and the great difficulties of travelling to and fro owing to the exigencies of the State monopolizing the railroads, the Exhibition was well attended by the classes for which it was designed, and the numbers of visitors and the receipts were, under the circumstances, considered very satisfactory. The general arrangements partook largely of the same character as those we are so well

accustomed to at home. There were, however, one or two points of difference which, I think, we may glean from them and engraft with advantage on our own. The one has reference to the issue of tickets of admission for the whole period of the meeting; the other to the mode of distribution of the prizes.

Many persons are willing to purchase the right of free entry at a cost far higher than they would be disposed to incur were they to be called upon to pay each time they wished for admission. It is a privilege that they are willing to pay for; and the oftener they exercise it the better, as they not only increase the number of visitors, but frequently act as inducements to others to enter, who would not have done so without some such determining agency.

The arrangements for, and the distribution of,the prizes in the cattle classes were very effective, and together formed a very interesting and attractive ceremonial. The prizes were awarded by the juries in the usual manner, and the awards were affixed on the stalls at the head of the animals thus selected. These notices gave those interested in the matter good opportunities of inspection and inquiry on any points they wished. On the last day of their exhibition, the prize animals,—horses and cattle,—were led from their stalls up to the tribune, where the prize itself, whether in money or medals, was handed to the owner or his representative; the different classes of animals succeeding each other until all were satisfied.

On the present occasion, the whole proceedings were not only interesting but extremely picturesque. The Hungarian and Sclavonian grooms and herdsmen, in their gay and striking costumes, followed by the dairymaids of Salzburg and the Tyrol, in their quaint and beautiful national attire, each dressed *à rigueur*, and each leading a favourite animal, produced a very striking pictorial effect, which was well set off by the serried background of eager spectators, who surrounded the ring in front of the tribune, where the owners of the animals received the prizes awarded. It was the intention of the Emperor to have been present and have distributed the prizes himself. Circumstances, however, required his presence elsewhere, and the Archduke Karl Ludwig acted as his representative, being attended on the tribune by the jurors, the committee, and the leading members of the Imperial Agricultural Society.

Although to one accustomed to the advanced farming of this country, the Exhibition presented no marked novelties or improvements, either in the processes of tillage or the practices of breeding; still he could not but mark with satisfaction the estimation in which agriculture is held in Austria by the highest in the land, and be gratified by the encouragement that is given to it by the State, not only as regards its practical development, but also as regards the inculcation and diffusion of the principles upon which a sound and successful practice can alone be based.

That noble precept, inscribed over the portals at Grignon, —"Le sol est la Patrie; améliorer l'un c'est enrichir l'autre,"—is

believed in Austria, and is being nobly translated and carried out by the State. The numerous and well-appointed colleges and schools for the special education of her young farmers, which have already been referred to, must tell beneficially upon her agriculture; a policy which the future will acknowledge even more warmly than the present. This is a point in which this country compares very much to its disadvantage with Austria, or, indeed, with the other leading kingdoms of the Continent. If the question be asked, What good has resulted from Grignon, Hohenheim, Poppelsdorf, Tharand, Jéna, Möglin, Ungarisch-Altenburg? the agriculture of their respective countries can give speedy and most convincing replies. And yet, with all this evidence and a host more of a similar character open to us; with the knowledge that we have to rely upon foreign sources for fully one-third of our necessary supplies of food, while it is well known that the *average* produce of our fields is not more than two-thirds what it might be, were the general standard of intelligence raised to the same level as that which directs our best farmed lands, we are satisfied to remain as we are, ignoring altogether the claims that agriculture has for a *special education;* aiding to teach, by the large contribution we annually pay them, the farmers of other countries,* but neglecting to teach our own. Had this important branch of national education been acknowledged here as it is in Austria, we should have been able readily to have met the present demand of India for skilled foresters, and been spared the mortification of having to delay the supply until we can send our young men to foreign schools to acquire that knowledge which we have no means of imparting to them in this country.

In Austria the State does not content itself with merely securing the means of education, but also interests itself directly in providing that other necessary element of success in farming—capital. Renewed attention has been paid to the re-organization and extension of existing "Land Credit Banks," and the establishment of new ones in various provinces of the Empire, especially in Upper and Lower Austria, Bohemia, Silesia, Styria, and the Bukowina. In a country like Austria, where capital is scarce, the advantages offered by such institutions to industry and the general community (Landbevölkerung) is strongly dwelt upon. From recently published statements, it appears that this mode of obtaining money help has been made available to a large extent. In Silesia, the real property is valued at 109,000,000 florins, which already bears a mortgage debt of 24,000,000 florins, or about 21 per cent. In Bohemia, the mortgage debt is equal to about 17 per cent., and in Moravia to about 15 per cent. on the amount of the real property. In Upper Austria, the land is

* Our average annual importations from foreign countries of corn, cattle, and other produce used for feeding or technical purposes exceeds £25,000,000 sterling. These are exclusive of those productions unsuitable to our climate. This has a political bearing too that ought not to be overlooked. The disastrous effects that might result from such a state of dependence is well known and talked about on the Continent—though apparently but little thought of at home.

valued at 412,000,000 florins, with a mortgage debt of 194,000,000 florins, or about 49 per cent., while for the whole of the Empire, the average debt is only about 15 per cent., the land being valued at 9500,000,000 florins, and the debt being 1,495,000,000 florins.

In going through the several departments of the Exhibition, I have ventured to make such remarks as appeared to me to bear upon the subjects, and to be useful either to this country, or to that which I was instructed to visit. In offering opinions or drawing conclusions between the productions and the practices of different countries, especially when one's own is concerned, the judgment is very apt to be biassed by prejudices and preconceived opinions, whatever effort may be made to guard against them. Believing agriculture to be the sheet anchor of Austria's prosperity, my endeavour has been honestly to serve its real interests by impartially pointing out what appears to me to be its points of weakness as well as of strength; in the hope that while the one is strengthened, the other may be upheld and increased.

Nature has done much for Austria; her soil and her climate fit her for well nigh every production of the temperate zone. Such great advantages, however, carry with them commensurate duties. The State, by a wise and encouraging policy, has pointed out the path that ought to be followed, and it now rests with her people to show by their skill and energy that they are able to bring these natural advantages into full subjection to the laws of cultivation, and thus advance the condition of their Agriculture, the most vital and most important of a country's resources.

JOHN WILSON.

Edinburgh, December 1866.

REPORT

ON THE

AGRICULTURAL EXHIBITION

AT

AARHUUS (DENMARK).

REPORT.

EQUIVALENTS OF DANISH WEIGHTS AND MEASURES REFERRED TO.

Square Mile is nearly	=	22·	square miles (English)
Tönde (metrical)	=	3·8272	bushels „
„ (superficial)	=	1·363	acres „
Foot (fod)	=	1·0298	feet „
Inch	=	1·0298	inch „
Pound	=	1·1024	lbs. „
Pot (fluid)	=	1·1758	quarts „
Rigs-daler (96 skillings)	=	2·243	shillings „
Rigs-daler per Tönde-land	=	1·6456	shillings per acre „

THE meeting of the Royal Danish Agricultural Society at Odensee in 1863, at which the international element was for the first time admitted, proved so successful, that, on the recurrence of the usual triennial period for holding their great meeting, the machine and implement makers of foreign countries were again invited to present themselves and take part in the proceedings.

Aarhuus, in Jutland, was the place selected for the meeting, and although somewhat difficult of access, whether as regards machinery, live stock, or visitors, it would have been difficult to have found, within the now circumscribed range of Denmark's rule, a more suitable locality for such a purpose. The town, which contains some 12,000 to 14,000 inhabitants, is beautifully situate on the shores of the Great Belt, which here form a bay of considerable extent. A harbour, with a depth of water sufficient for vessels of 800 tons burthen, lies towards the western extremity of the sea front, and affords shelter to the trading shipping of the port, and accommodation to the mail steamers, which run daily between Aarhuus and Lubeck, touching at Korsoer in Zealand *en route*. By this service, which is admirably performed, Jutland is kept in regular daily communication with the seat of Government, and also, at Lubeck, with the great system of railways which ramify through the whole of Germany and other parts of the Continent.

Jutland is purely an agricultural province, the whole energies of its people being devoted to the breeding of cattle and the manufacture of butter and cheese. These are matters which bear so largely upon our daily wants as to possess a more than ordinary interest to the general community. Just now, bearing as they do upon our recent losses by the Cattle Plague, they possess more than ordinary claims upon our attention, as it is from their stock that we may look for the readiest supplies, both of store cattle and of dairy produce, to supplement our deficiencies, or at all events to help us over our present difficulties.

Denmark, which now comprises only Jutland and the Danish isles, is, comparatively speaking, so little known, and its agricultural system possesses features so different from our own, that a short sketch of its principal physical and economic features, and of its productions, is a necessary introduction to the Report which I have now to submit upon its great agricultural meeting.

The surface area of Denmark extends over 667½ square miles* (Danish) or 6,866,061 Danish Tönder-land.† The population, according to the last census returns (Feb. 1, 1860), amounted to 1,600,551 persons, of which number 737,204, or 45·43 per cent., were engaged in agricultural pursuits.‡

The character or rather quality of the soil is expressed by an arbitrary standard of comparison peculiar to Denmark, to which we have nothing analogous in our own country, nor in the other countries of Western Europe. This I will now endeavour to explain.

From a very early period in Danish history the different grain crops cultivated in the country were divided into "hard corn" and "soft corn." Barley and rye represented the first, and oats the second; wheat at that period was not known as a farm crop. As the land was held by different proprietors in differing quantities, and differed itself in quality, it was thought advisable, in 1656, to define their qualities and values by some fixed and readily recognised standard, and all rents and imposts on the lands were reduced into their estimated equivalents of "Hart-korn" (hard corn). The Amtmann of the district summoned meetings of the principal proprietors and of those qualified to assist in such an investigation, the quality of the land was determined by them and the rents fixed according to its estimated produce. The most productive was rated as high as 40 rigs-dalers§ the Tönde-land, while the inferior qualities ranged as low as 2 r. d. per Tönde-land.

In 1660, when the crown of Denmark was made hereditary, and a fixity thus given to the Government of the country, the taxes and other fiscal imposts were calculated on the amount paid for rent, which itself was determined by the estimated produce of

* The Danish square mile is nearly 22 English.
† The Tönde-land is equal to 1·363 acres.
‡ "Statistisk Udsigt over Danmarks Landbrug." Kjobenhavn, 1866.
§ The Danish rigs-daler is equal to 2*s.* 3*d.* (English).

the land in Hart-korn. Owing to some irregularities in the working of the system, revision and alterations were needed, and in 1681 a second general survey was made of all the cultivated lands, and a rigid re-measurement and re-valuation were carried out. The meadow lands were rated according to their estimated produce in hay; the pasture and grass lands according to the amount and nature of the stock they could carry; and the arable lands were divided into Tönder-land, and their value estimated according to the amount of "Hart-korn" they could produce. In 1804, and again in 1827, fresh valuations were made, and the old superficial measurements either confirmed or rectified. In 1840, these were again subjected to supervision, and the taxes of the country re-arranged. At the present date, every portion of the surface, except that occupied by roads or by water, is valued at so much "Hart-korn per Tönde-land," and is assessed for imperial or local taxation according to this rate.

For the best qualities of land, such as is met with in some of the islands, the taxes are fixed at 1 Tönde* of Hart-korn for each 6 Tönder-land of surface; for the medium class of soils at 1 Tönde of Hart-korn for 12 Tönder-land; and for the inferior qualities of soils at 1 Tönde of Hart-korn for 100 Tönder-land of surface. The average rate of assessment of the whole territorial area may be taken at 1 Tönde of Hart-korn for each 20 Tönder-land of occupied surface. When any land is offered for sale, the Hart-korn value is always specified as well as the extent of surface.

The large properties or farms "Herred-gaard" are usually let on leases of 12 to 15 years, with covenants as to the mode of cropping and farming as stringent and often as obstructive as our own. Rents are paid either wholly in money, or half in corn and half in money, the rates for ordinary farming land ranging from 10 to 15 r.d. per Tönde-land. The small farms or properties "Bönder-gaard" are usually let for longer periods, such as 50 years, or for a certain number of lives. The farm laborers are usually engaged by the year. They are lodged and boarded in the house, and paid at the rate of 40 to 60 r.d. per annum.

This brief explanation will, I hope, be sufficient to render the following statistical statement of the quality or character of the land readily intelligible, although expressed in a form so entirely different from what we are accustomed to at home.

The meadows, woods, and arable lands are valued at 375,069 Tönder of Hart-korn, of which 203,809 are on the islands and 171,206 are in Jutland. These are divided among 1,754 large proprietors who possess altogether 50,118 Tönder of Hart-korn, giving an average amount to each of 28·6 Tönder Hart-korn, and 69,094 small proprietors who possess 278,528 Tönder Hart-korn, thus averaging an area equal to 4 Tönder Hart-korn each. There are besides 136,925 small occupiers of houses with less than 1 Tönde Hart-korn attached, who possess together 34,531 Tönder Hart-korn or an average of about ·25 Tönder each, and in other small

* The Danish Tönde (metrical) is equal to 3·8272 bushels (English).

occupations of various descriptions an area exists equal to 5,122 Tönder Hart-korn. Thus the entire surface is occupied in the following proportions:—

By large properties, ...	13·6	per cent.
By small properties, ...	75·6	,,
By occupations under 1 Tönde Hart-korn, ...	9·4	,,
By small occupations, ...	1·4	,,
	100·	

These two classes of landed proprietors vary somewhat in their relative proportions on the islands and on the mainland (Jutland), the large estates increasing on the islands, while the proportion of small estates is greatest on the mainland.

	No.	Possessing Tönder-land.	Percentage. Proportion.
On the Islands.			
Large Proprietors	1,024	32,724	16·3
Small ,, ...	30,391	147,347	73·7
Small occupations with houses ..	67,545	16,705	8·4
,, ,, without buildings	..	3,205	1·6
			100·
Jutland.			
Large Proprietors	730	17,394	10·3
Small ,, ...	38,703	131,171	78·
Small occupations with houses ..	69,380	16,705	10·6
,, ,, without buildings	..	1,917	1·1
			100·

The surface area was, according to the last returns (1861) occupied in the following manner:—

Productive area	4,753,278	Tönder-land.
Unproductive	2,112,783	,,
	6,866,061	,,
Productive occupation—		
In tillage cultivation—as corn, roots, and economic crops	1,962,183	,,
In meadows, grass, and irrigated lands, fallows, &c.	2,474,393	,,
In woodlands..	316,712	,,
	4,753,278	,,
Unproductive—		
Waste lands, moors, &c.	2,032,245	,,
Water	80,538	,,
	2,112,783	,,

The relative proportions of the productive area are—

In tillage occupation	41·28	Per cent.
In permanent grass, &c.	52·06	„
In woods	6·66	„
	100	„

Tillage Area under Crop.	Tönder-land.	Percentage. Proportion.
Wheat	112,358	5·72
Rye	378,873	19·31
Barley	549,743	28·02
Oats	649,264	33·09
Pulse	75,908	3·87
Buckwheat	49,145	2·50
Seeds	61,078	3·11
Potatoes	55,341	2·82
Roots	4,508	·23
Rape	12,872	·66
Flax and Hemp	7,270	·37
Carraway, &c.	5,814	·30
		100·
Grazing lands, &c.—		
Grass pastures	1,408,322	57·01
Natural meadows	433,635	17·53
Irrigated ditto	308,385	12·46
Fallows	324,051	13 10
		100·

The average yield of the principal tillage crops is thus given—

Wheat ..	1,100,000	or about	10	Tönder per Tönde-land	
Rye ..	3,400,000	„	9	„	„
Barley ..	6,000,000	„	11	„	„
Oats	7,700,000	„	12	„	„
Buckwheat ..	25,000	„	5	„	„
Pulse	600,000	„	8	„	„
Mixed seeds ..	300,000	„	10	„	„

The gross produce of the cultivated land is appropriated as follows:—

	Tönder.	Per cent.
For seed purposes	2,250,000	11·7
„ Food for cattle, &c.	7,900,000	41·6
„ General consumption	5,500,000	29·4
„ Export	3,420,000	17·3
		100·

In 1865 the surplus agricultural produce exported, consisted of

Wheat	466,357	Tönder.
Rye	543,331	„
Barley	1,537,417	„
Oats	815,504	„
Peas	29,967	„
Beans	8,669	„
Tares	2,311	„
Rape	147,782	„
Malt	4,404	„
Flour	212,130	„
Miscellaneous	6,057	„
Total	3,773,910	„
Oil Cakes	7,081,840	lbs.

The last statistical returns of live stock were made in July 1861, and were as follows:—

HORSES—

Stallions	4,671	324,560
Mares	170,411	
Geldings	112,775	
Foals, under two years	36,703	

CATTLE—

Bulls	21,080	1,118,774
Cows	756,834	
Oxen	76,758	
Heifers, and under two years	264,102	

SHEEP—

Over one year old	1,051,517	1,751,950
Under one year	700,433	

SWINE—

Over one year old	62,181	300,928
Under „	238,747	

Annual live stock produce (1860):—

Foals	20,005
Calves	521,670
Lambs	739,675
Pigs	289,849

This would give an average of the several descriptions of stock per 1,000 of the population of

Horses	203	or 468	per square mile
Cattle	699	„ 1,612	„
Sheep	1,094	„ 2,524	„
Swine	188	„ 433	„

The average annual butter produce is estimated at 50 to 51,000,000 lbs.

After providing for the requirements of the population, there remained (1865) the following surplus stock and animal produce for exportation :—

Horses	3,501	
Cattle	38,934	
Calves	639	
Sheep	29,851	
Swine	39,058	
Dead meat	1,440,345	lbs.
Bacon	9,932,312	„
Butter	41,145	barrels.
Wool	2,900,307	lbs.
Skins	5,385,230	„
Bones	4,557,459	„

The climate of Denmark appears to be not very different from our own. From the returns which have been furnished to me by the Meteorological Committee of the High Agricultural School, it appears that the mean monthly temperature recorded at Copenhagen for the past 72 years has been :—

January	29·75°F.*	July	61·7°F.
February	30·61°	August	62·31°
March	33·62°	September	56·28°
April	42·99°	October	46·6°
May	51·75°	November	39·02°
June	59·81°	December	33·65°

The mean	winter (December, January, and February)	temp. was	31·46
„	spring (March, April, and May)	„	42·46
„	summer (June, July, August)	„	62·
„	autumn (September, October, November)	„	46·64

The rainfall which has been recorded at the same place for forty-four years, gives the following mean monthly quantities for that period :—

January	1·71	inches†	July	2·28	inches.
February	1·5	„	August	2·46	„
March	1·55	„	September	2·16	„
April	1·45	„	October	2·16	„
May	1·48	„	November	2·	„
June	2·10	„	December	1·67	„

The mean amount of rain falling

During the Winter quarter has been	4·9	inches
Spring „ „	4·47	„
Summer „ „	6·85	„
Autumn „ „	7·15	„

The mean number of days on which either rain or snow, hail, &c., has fallen in each month, recorded for a period of thirty-two years, was 157, occurring as follows :—

* The Danish inch is equal to 1·0298 inch (English).

† In Denmark Réaumur's thermometer is used. The degree of R is equal to 2·25° of F, or as 4 is to 9.

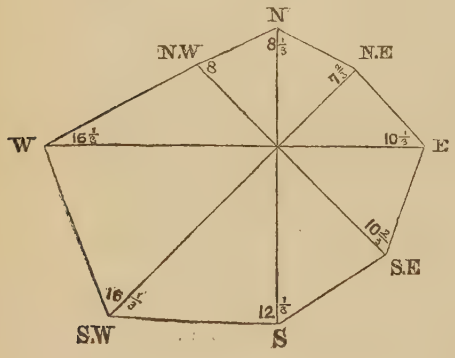
January	..	15	of which snow fell on 7 days.
February	..	12	„ 6 „
March	..	13	„ 5 „
April	..	11	„ „
May	..	11	„ „ „
June	..	12	„ „ „
July	..	14	„ „ „
August	..	14	„ „ „
September	..	13	„ „ „
October	..	15	„ „ „
November	..	14	„ 1 „
December	..	13	„ 4 „

The mean number of days on which wet fell in the

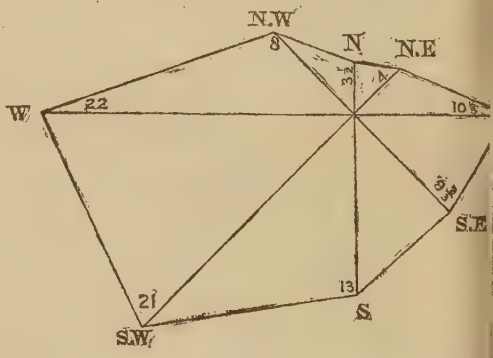
Winter quarter was	..	40	of which snow fell on	17
Spring „	..	35	„	6
Summer „	..	40	„	0
Autumn „	..	42	„	1
		157	„	24

THE prevailing Winds for the four Seasons and for the Year calculated from observations taken three times daily at Landboheisholm, 50° 41′ N. latitude, 0° 2′ longitude W. of Copenhagen (average of three years), are represented by the following Diagrams:—

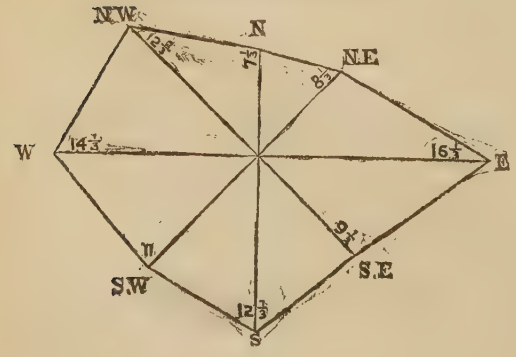
WINTER—(December, January, February).



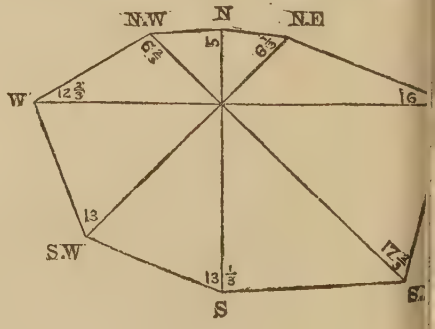
SUMMER—(June, July, August.)



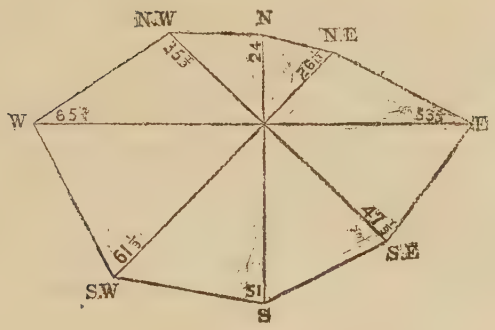
SPRING—(March, April, May.)



AUTUMN—(September, October, November.)



Average for the year.



This brief and condensed sketch, though very imperfect, will, I hope, serve to convey a pretty good general idea of the agricultural character and capabilities of the country.

The Exhibition comprised five distinct departments, which were located in as many different places, though all were within an easy distance of each other.

1. Machines, Implements, and Tools.
2. Butter and Cheese.
3. Seeds—Agricultural and Forest.
4. Fish, and Fishing appliances.
5. Live Stock.

The four first departments were open during the whole period of the meeting, from the 24th to the 29th June inclusive. The last was only exhibited on the 28th, the stock being removed the next day.

The prizes and honorary awards were on a very liberal scale. In the "Machine and Implement" department medals were given in silver and bronze. In the "Dairy Produce" department medals were given for large dairies' butter, and for small dairies' butter (under twenty cows), and for whole milk and skimmed milk cheeses, besides money prizes of 25, 15, and 10 r. d. each.

In the third department, medals were given;—in the "Fishery, &c.," department., silver and bronze medals were given for preserving fish—for preparing fish for food—and for tackle and appliances for catching fish. In the "Live Stock" department, money prizes were awarded to a large amount in the following proportions.

For the Horse classes in all		2,800 r. d.
Cattle	„	2,845
Sheep	„	355
Swine	„	160
Fat Stock	„	1,000
Or a total of		7,160 equal to £796 sterling.

Machines and Implements.

The various objects comprised in this department were divided into sixteen different classes, and were exhibited in the Cavalry Riding School and exercise ground attached. There were 182 exhibitors, many of whom sent numerous specimens of their manufactures. The department was well illustrated, the machines and implements generally being well constructed, of good materials, and evidencing a practical suitability for the work they were intended for. Several of our own firms were creditably represented, though their contributions to the Exhibition were not on the same scale as was seen at the Vienna meeting. This was probably due to the limited nature of any possible demand for their manufactures in Denmark, compared with other continental markets, not encouraging a greater outlay, though the conveniences and cost of transport to Aarhuus were more favourable than to most other places at which they have from time to time been invited to exhibit. Experimental trials in the field were conducted during the week preceding the Exhibition, under the personal superintendence of Prof. Jörgensen, of Copenhagen (to whom I am greatly indebted for the facilities and information he afforded me during my visit), and a special jury; and opportunities were afforded each morning of the Exhibition of seeing some of the principal machines, such as reapers, &c., in operation, close to the show ground. These appeared to attract attention, and give general satisfaction.

The following prizes were awarded to the English exhibitors:—

Silver Medals, to

Clayton and Shuttleworth, for Steam Engine and Compound Threshing Machines with Straw Elevator.
Hornsby and Sons, for Steam Engine and Threshing Machine.
Ditto for Reaping Machine.
John Baker, for Corn Dressing Machine.
J. and F. Howard, for Ploughs and Harrows.
Spear and Jackson, for Hand Implements.

Bronze Medals, to

W. S. Underhill, for Turnip Sowing Machine.
R. and R. Hunt, for Horse-hoes.

The "Butter and Cheese" department was, as might be expected, upon a much larger scale than we are accustomed to at ordinary agricultural meetings. Both the larger and the smaller class of dairies were well represented; and the samples of their respective produce, in butter and in cheese, were so numerous as not only to occupy much time, but to give the judges considerable difficulty in making their awards.

In the third department, "Agricultural and Forest Seeds," the samples exhibited were too limited in quantity to admit of any fair comparisons or judgment of what their quality would be in bulk. They were generally very neatly and creditably arranged, but on a scale more suitable for a museum collection, than a great agricultural exhibition.

The "Fish and Fishing Appliances" exhibited were also of a very meagre description; certainly not equal to what a seagirt country like Denmark was capable of furnishing. This branch of our food-producing industries appears to have been lately exciting more attention in different countries than it formerly did; but certainly not more than it deserves. In countries like Denmark and our own, with such an extent of coast line, the sea offers a field for occupation where the harvest is of a permanent and well-nigh illimitable character—where no seed or seed-time has to be considered, and where the crop is always ready to be gathered in when the elements permit the tillers to leave their homes.

In Holland, in France, in Norway, and in Sweden, special exhibitions for illustrating and developing the fishing resources of the respective countries have already been held. At the recent meeting at Vienna it formed an interesting department, and announcements have been made public of an exhibition to be again held in Holland in the coming summer for the same object.

Would it not be well for us to follow the example thus set us by countries whose natural fishing facilities are not greater, and whose food pressure is certainly not so great as our own. It may be that we think we have not much to learn from the practices of foreign countries; if this be so, it would be still beneficial, as they might possibly pick up some knowledge from us. At all events, an exhibition, free to all comers interested or engaged in the same pursuit, could not but have a beneficial influence on the industry thus specially represented. Of late years the price of fish in this country has advanced, even at a more rapid rate than that of butcher's meat, while the actual cost of production cannot have changed. A large and regular supply of fish would not only provide our population with a cheap, wholesome, and nutritious food, but also tend to relieve the meat market from that pressure which the increasing prosperity of the middle and working classes subjects it to, though to their own cost.

The "Live Stock" department was, as usual, the great object of attraction of the meeting, and was extremely well attended during the period it was open, though situated apart and at some little distance from the other sections of the Exhibition. Not that the interest taken generally in the machines and implements was less, or that it slackened during the five days on which they were exhibited; but as only a single day was set apart for the Live Stock, the attraction that kept the implement yard well attended for several days was all concentrated into a single day, and caused a large attendance on the ground.

Another circumstance tended no doubt to swell the numbers

that attended the meeting on that day. At an early hour the King, accompanied by the Crown Prince and the Czarowich and the Grand Duke Alexis of Russia, arrived at Aarhuus from Copenhagen, and proceeded to visit the different departments of the exhibition. Each department was visited in detail, and the greatest interest manifested by His Majesty in everything that tended to illustrate the present or to improve the future condition of the agriculture of the country.

Later in the day His Majesty and his Imperial visitors drove to Moesskov, the estate of the Amtmann of the district, notwithstanding the fatiguing duties of the morning, which entailed some five or six hours' exposure to an amount of heat and dust of more than usual intensity.

The "Live Stock" was arranged in four divisions—horses, horned cattle, sheep, and swine—and these again were subdivided into different classes. The horse classes were for

1. Heavy draught.
2. Light draught.
3. Native horses.

The cattle classes comprised,

1. Jutland breeds for feeding purposes.
2. Other breeds „ „
3. Jutland breeds for milking purposes.
4. Angel breed „ „
5. Other breeds „ „
6. Collection of milking stock, consisting of bull, three cows, and two heifers of same breed.

The sheep classes were for

1. Merinos.
2. Pure breeds for feeding purposes.
3. Mixed do. „ „

The swine formed only a single class.

The fat stock classes comprised,

Cattle, calves, sheep, and swine.

The several "Horse" classes were very well represented and contained some very well shaped useful animals, whether for road or purely agricultural work. Those selected by the judges as worthy of a prize had to substantiate their claims to it by performing in harness in a satisfactory manner, a given distance, with a certain weight of draught, in a certain time. The horses were thus seen in action at the work for which they were stated to be suitable, and their qualities, good or bad, were thus brought out more prominently and more fairly than would be done by the ordinary mode of judging.

The Jutland horse is generally a well-bred, good-shaped animal, from 15 to 16 hands high, rather heavy and sluggish in appearance, and suitable for road as well as field work. The prevailing colours were bays and browns. Some years ago some English

thorough-bred stallions were imported for improving their breed; and more recently Cleveland blood has been resorted to for the same purpose, but in neither case were the results so satisfactory as was expected. They have, no doubt however, done some good, as many of the horses exhibited possessed many points of resemblance to the Yorkshire breed. There were 164 horses on the ground; they were generally in good condition and well groomed.

In the "Cattle" classes prominence was duly given to the breeds best suited for dairy purposes, of which several excellent specimens were exhibited, both of the native Jutland and the Slesvig breeds. The Jutland dairy breed is of small size, generally black and white, or of a dun colour, with coarse heads and muzzles—not at all prepossessing in appearance, but presenting great opportunities for improvement by judicious selection in breeding, or by crossing with other suitable breeds. The Angel (Slesvig) breed is darkish red in colour, small in size, but well shaped, with fine symmetrical heads and necks, good quarters, and all the characteristics of good milkers. The class for collective specimens of the particular breed afforded a good opportunity of forming a satisfactory judgment of the stock of the exhibitor, as the bull, cows, and their produce, were placed together in each lot.

There does not appear to have been at any time much infusion of foreign blood into the native breeds of the country, neither did the stock exhibited indicate that careful selection in breeding which we consider so important at home. In the mixed breeds classes there were a few crosses with the Alderney and Ayrshire blood, but no pure specimens of either were shown.

A little more attention to the preparation of the stock generally for exhibition, especially as regards cleanliness, would have materially improved their appearance. Many were too low in condition for even ordinary purposes. The same observations which I ventured to make with reference to the stock exhibited at Vienna are even more applicable here.*

* "Rarely out of our own country do we find the same amount of care and attention bestowed on the preparation of stock for exhibition that we are accustomed to at home. This difference of treatment has its advantages as well as its disadvantages. The animal is shown in its natural every-day condition, with all its points, good or bad, fairly exposed, and its merits or defects open to an easy judgment. It has not been forced by early and rich feeding to assume abnormal proportions or an undue maturity, too often at the cost of its natural powers, but stands as the honest representative of what it professes to be, and visibly justifies the value that is placed upon it. At the same time the unprejudiced visitor from England must, without attempting to defend the exaggerated mode of preparation at home, observe the general depreciation which stock of any sort undergoes when exhibited without that due attention to condition and cleanliness with which all stock properly cared for ought always to be treated. These are indeed points which, though frequently sadly neglected, are as liable to affec tthe general health and vigour of an animal, as is overfeeding, though in different ways, and certainly claim attention from the owners of stock in the Austrian Empire."—Report on the Agricultural Exhibition at Vienna, page 32.

The different classes were well represented, comprising no less than 438 entries in addition to the separate collective lots (19 in number) of bulls, cows, and offspring. The cattle as well as the horses were all exhibited in the open, tethered in rows according to their respective classes; fortunately the weather, though intensely hot, was most favourable for both men and beasts.

The "Sheep" classes contained nothing which calls for special notice. The old Danish breed is well-nigh displaced entirely by the introduction of the Merino or English breeds. In some cases crosses have been effected, but in none of the specimens exhibited were the results to be compared with the pure imported breeds.

The class contained in all 135 entries, inclusive of the fat stock, about 40 in number.

The "Swine" classes were poorly represented. In all the specimens exhibited, English blood—Yorkshire or Berkshire—gave the stamp of value to the respective pens. Indeed, neither the sheep nor swine classes were quite equal to what might reasonably have been expected in a country so purely agricultural as Denmark—a country too which has a large annual surplus produce to dispose of, in which *quality* is, or ought to be, always a matter of primary importance.

Taken altogether the Exhibition, though somewhat unequal in its departments, was a great success, and most creditable to a country so limited in its population as Denmark now is. The numbers that visited it were far in excess of those at any previous meeting, and must have contributed satisfactorily to the funds of the Royal Agricultural Society, under whose direct superintendence it was held, and been equally gratifying to the excellent and indefatigable President, Count Holstein-Holsteinborg.

The Royal Agricultural Society was established in 1769, and consists of three presidents, a council of 12 members, and about 300 ordinary members, who each pay 10 rigs-dalers per annum. In addition to the subscription the society receives an annual subsidy from the Government of 1,600 r.d. Its great meetings or Exhibitions are held every third year; the locality being changed for each meeting. Besides this central society for the practical encouragement of agriculture, there exists an excellent school at Copenhagen for teaching those principles of the art, the application of which it is the function of the Royal Agricultural Society to develop and encourage. The Royal Veterinary and Agricultural High School (Kongelige Veterinair-og-Landbohoiskole) was organised in its present form in 1857, and is intended to teach agriculture, agricultural engineering, veterinary practice, forest and garden cultivation and management, for each of which there are separate departments. The teaching staff consists of 7 professors and 10 docents or teachers, who are attended by an average number of 250 students.

The regular course of teaching comprises the following subjects which are thus arranged by the—

7. Professors and 10 Docents or Teachers.

2. Pathology	Mathemátics.
1. Anatomy	Botany.
1. Hygiène	Zoology.
1. Chemistry	Geology.
1. Agriculture	Mineralogy.
1. Surveying, &c.	Forestry.
	Horticulture.
	Engineering, &c.
	Plan Drawing, &c.
	Veterinary Jurisprudence.

The duration of the school course of study varies in the different departments, viz:—

The Agricultural course lasts .. .. 2 years.
„ Veterinary course lasts .. .. .. 4½ „
„ Engineering & Surveying course lasts 4½ „
„ Forestry course lasts .. .. .. 2½ „

The classes are held continuously from August to May, when Examinations are held in each of the departments and Certificates of qualification (1, 2, & 3, class) given to the successful candidates. The Government gives an annual subsidy of 40,000 r.d. (£4,500) to the Institution. The cost to the student is limited to 12 r.d. per annum for the entire course of lectures, with the addition of 10 r.d. per session, with half the cost of the materials used by those who work in the laboratories. These fees, however, do not go towards the sustentation of the school, but go to form a fund, which is placed under the control of the Professors, for the purpose of defraying the expenses of the poorer class of students who would otherwise be unable to avail themselves of the teaching of the Institution.

One of the most important and interesting features of the meeting, and which is, so far as I know, peculiar to the great meetings of the Danish Agricultural Society, was the discussions which were held each morning during the week of the Exhibition. The questions appointed for discussion were introduced by members specially acquainted with the subjects and appeared, from the vigour of the discussion and the numbers present, to attract attention and give great satisfaction.

The following list of the questions for discussion at the Aarhuus Meeting will give some idea of the mental calibre and proclivities of the Danish agriculturists.

1. What new experience have we in respect to the proper treatment and manufacture of butter and cheese?
2. Considering the climatal advantages that may result from planting and irrigating on a large scale the moorlands of Jutland, it is desirable to consider by what means these advantages can be most profitably secured.
3. How are the working population of the rural districts housed; and by what means can their dwellings be enlarged and improved?

4. Would it be right to graze the land under woods,—is it even advisable to do so?
5. Do we pay sufficient attention to the cultivation of fruit-bearing trees; what can we do to improve them?
6. Consideration of the means to be adopted to meet the future demand for instruction in "Rural Economy" by the smaller farmers.
7. Ought we not to pay greater attention to the manufacture of meat,—in what direction ought the practice of feeding to be extended?
8. Are our present means of transport of live stock to English ports sufficient to satisfy the export requirements of the country?
9. Are there any good reasons for trying to obtain an alteration in the law of January 26, 1863, as far as it excludes the older stallions from competition for the Government prizes at the local shows?
10. What value ought to be attached to the trial of strength in judging the horses;—ought this test to be introduced at the local shows?
11. Has drainage answered our expectations, and has this mode of improvement effected an alteration in the mode of utilising and treating the land?
12. Can the present condition and produce of our agricultural land satisfy the claims incurred by our improvements in farming?

The only comment that I would venture to make upon this list would refer to the great number and variety of subjects for discussion, for which the time set apart for such purpose was totally inadequate. Neither is it expedient to distract attention by directing it to so many different points; far more good is to be obtained by selecting a limited number, nay, a single subject of interest for each discussion, so that attention may be concentrated, and the subject be thoroughly ventilated. As it was, I believe, not one-half of the questions were discussed, notwithstanding the evident interest they excited, and the time that was devoted to them.

The same practice of issuing admission tickets for the whole period of the Exhibition and of a public distribution of the prizes, that I met with at the Vienna Exhibition, is followed at the Danish Agricultural Meetings, and with the same beneficial results.

Not that the ceremonial of the distribution of prizes at Aarhuus could be compared, so far as pictorial effect went, with that at Vienna. The presence of Royalty, and the varied and striking costumes of the different nationalities taking part in the proceedings there, gave a coloring to the latter which probably no other country could have produced. Here, however, the business of the day was conducted in a more simple and more serious manner—a manner which, after all, possessed more sterling value than had it been surrounded by the glittering accompaniments that made the Vienna ceremonial so effective. Although the nobles and larger proprietors were

well represented, the great majority of the recipients were well-to-do yeomen farmers, as independent in their circumstances as in their characters, all wearing the same national dress of the plainest materials, all speaking the same language, and all joining heartily in praising their country and the King to whom they owed allegiance.

The President of the meeting, Count Holstein-Holsteinborg, distributed the prizes, the animals being paraded past the tribune in succession as the prizes were presented to the successful exhibitors.

Besides the regular discussions already alluded to, another practice exists at the meetings of the Danish Agricultural Society, which not only adds to their general interest, but also tends greatly to the benefit of the visitors generally, and especially of the smaller farmers. Excursions are arranged for visiting some of the leading farms and most improved estates in the district, where they have an opportunity of examining and of seeing carried out in practice those advanced systems which have been recommended to them by the Society, and perhaps discussed at the meeting itself. On this occasion, while one large party proceeded inland by the railway, others went east and west—by steamer or by road—to visit the fine farming and dairy establishments of Mr. Saxtorth, at Vosnœsgaard, and of Mr. Dahl, the Amtmann of the district, at Moesskov, where, notwithstanding their numbers, they were received with a most lavish hospitality, and conducted over every department of the farms. In the evening, a visit from the King and the Russian Princes and their suites, to Moesskov, added not a little to the enjoyments of the place.

On occasions like these, although a very good general idea of the character of a farm may be obtained, it is not possible to probe the management and go into details sufficiently to satisfy oneself upon all the points upon which success or failure materially depend.

To give some idea, however, of the nature and character of Danish farming, I propose to give a brief sketch of the management and general arrangement of four properties belonging to leading members of the Society, the working details of which were given to me either by the bailiffs or by the proprietors themselves, who furnished me without any hesitation, with information on all the points wished for.

Two of these farms, Marselisborg and Lillerup, are in Jutland; the third, Gjeddesdals, is in Zealand; and the fourth, Ourupgaard, is on the Island of Falster.

The farm of Marselisborg is quite close to Aarhuus, and consists of 450 Tönder-land of arable, and about 50 Tönder-land of meadow land. The farm lies well, with a slight dip towards the south-east. The soil is pretty uniform, of a good deep loam of moderate tenacity. The whole has been thoroughly drained with pipes laid at four feet deep. The land is farmed on a nine years' rotation, as follows—

1. Fallow.	4. Oats and Tares.	7. Seeds.
2. Wheat.	5. Barley and Roots.	8. „
3. Barley.	6. Oats.	9.

Manure is only given twice during the rotation, to the fallow and to the barley and root crops, about 20 tons of farm-yard dung being the usual application. The working force consists of a bailiff, 26 men, and 9 pairs of horses. The stock and management are solely for dairy purposes, the sale produce of the farm being butter and cheese. A herd of 130 cows are kept for milking, and about 30 head of cattle are fed during the winter. The cows were a mixed lot of native breeds, selected entirely for their milking qualities. The dairy establishment consisted of a chief and two under dairymaids, with six women to milk and do the heavy work of the dairy. Twenty cows were allotted to each milker, and the cows were milked twice a-day, in the field in summer and in the house in winter. The average milk produce was very low, only amounting to 380 gallons per cow per annum. At the time I visited the farm, there were 126 cows milked, which were giving daily 204 gallons.

Lillerup lies near Horsens, some 40 miles to the south of Aarhuus. The farm consists of 218 Tönder-land of arable and 30 of meadow land, and is drained throughout with pipes at a depth of four feet. A fourteen years' rotation is followed on this farm—

Year.		Year.
1 Fallow.		8 Roots.
2 Wheat		9 Barley.
3 Barley		10 Tares.
4 Oats		11 Rye.
5 Seeds }	fed off.	12 Seeds.
6 Seeds }		13 „
7 Oats		14 „

Manure to the extent of 20 tons per Tönde-land is given to the fallow and to the oat and root crops. To the latter 2 cwt. of guano and 3 cwt. of bones are given in addition to the farm-yard dung. Six pairs of horses are kept, and thirteen regular men, besides some boys. The farm is worked and managed entirely for dairy purposes. The dairy staff comprises two chief dairymaids, with four women to assist. The herd consists of 86 cows, giving an average annual return per head of 506 gallons of milk, from which an average yield of 160 lbs. of butter and of 180 lbs. of cheese is obtained. During the past year the largest yield of milk from one cow amounted to 990½ gallons, and the ten best cows in the herd gave an average of 770 gallons each. Everything is consumed on the farm except the wheat and one moiety of the rye crop.

In addition to the food produce of the farm, about 15 Tönder of rape cake and the same quantity of bran are purchased annually for the stock.

The farm of Gjeddesdals is situate on the island of Zealand, about four miles south-east of Roeskilde, a chief station on the Copenhagen and Korsoer Railway. The farm consists of 585 Tönder-land of a deep loam, mostly of a superior quality, containing naturally a good proportion of organic matter. It is worked and managed principally for dairy purposes.

The land has all been drained with pipes at 4 ft. depth, under the personal superintendence of the proprietor, Mr. Valentin, who, with great kindness and liberality, placed before me the outgoings and returns of his farm for each year since 1832, when he came into possession of the property. The accounts appeared to have been kept with scrupulous exactitude, even to the smallest details, and no doubt have contributed much to the reputation he has achieved as a practical farmer, and to the high value which is everywhere placed upon his advice and opinions. The cost of drainage averaged about 30 r.d. per Tönde-land; the usual cost, however, ranges from 30 to 50 r.d. per Tönde-land. The rotation followed on the farm is an eight years' course—

1. Oats,	5. Barley.
2. Fallow.	6. Seeds for Hay.
3. Wheat and Rape.	7. Seeds.
4. Peas and Wheat.	8. Ditto.

The manure is applied to the fallow and the barley crop, and a top dressing of artificial manures is given to the seeds cut for hay.

The working force on the farm comprises a bailiff and 32 regular men, and 11 pairs of horses. The live stock consists of 140 cows, with 20 heifers and 20 heifer calves, all for dairy service; about 200 swine for breeding and feeding; and half a score or so of sheep, kept merely for their lambs and wool produce, which is used up for stockings and other knitting.

All the dairy produce, butter and cheese, as well as the calves and fat swine are sold; as is also the surplus grain produce after reserving sufficient for the requirements of the farm.

The entire herd of cows were of the Angel breed, all good, and many of them excellent specimens of an excellent breed. It is very rare indeed to see such a large herd of a pure breed of such good and uniform quality. The dairy returns gave good evidence of their milking qualities. The dairy staff comprised one chief and one second dairymaid, with nine women to milk and assist.

In 1864-5 the gross milk produce of the farm was 331,000 pots* equal to 97,297 gallons, or an average of 695 gallons per cow. In the past year, 1865-6, the gross milk produce amounted to 328,000 pots, equal to 96,413 gallons, which gives the average per cow at 688½ gallons. In 1864-5 the gross amount of butter made was 19,000 lbs.,† and of cheese 18,000 lbs., which would give an average produce of between 130 and 140 lbs. of both butter and cheese for each cow.

A good cow well kept will yield from 600 to 700 gallons per annum. Mr. Valentin informed me that he has had cows that have given more than 1,000 gallons in the course of the milking year. The butter made on this farm has a good reputation in Copenhagen, where all of it is sent in earthenware jars of different sizes, suitable for family use. Thus the ordinary sale expenses are lessened, and a better price and quicker return obtained.

* The Danish pot is equal to 1.1758 quarts English.
† The Danish pound is equal to 1.1024 lbs. English.

The following is an abstract of the income and expenditure of the farm for the past year (1865):—

INCOME.

450	Tond.	Wheat	which sold for	3,991	Rigs-dalers.
130	„	Rye	„ „	970	„
922	„	Barley	„ „	4,992	„
1650	„	Oats	„ „	6,859	„
275	„	Peas	„ „	1,040	„
376	„	Rapeseed	„ „	5,192	„
Butter			„ „	10,280	„
Cheese			„ „	1,455	„
Calves			„ „	516	„
Swine			„ „	1,695	„
Cast Cows sold off			„ „	520	„
Odds and Ends			„ „	470	„
		In all		37,980	

EXPENDITURE.

For house and living expenses, labour, &c.	15,495	Rigs-dalers.
Corn, &c. for horses	4,460	„
Corn and other food for cows	7,901	„
Balance for rent, and interest on capital ..	10,124	„
Total	37,980	

This would show a *nett balance*, after paying for all house expenses, in favour of the farm equal to between 17 and 18 r.d. per Tönde-land. The season, however, had been very unfavourable for farming throughout Denmark, and the profits everywhere had been below the average, as the accounts for the three previous years showed an average *nett balance* of 32 r.d. per Tönde-land per annum in favour of the farm.

The rent value of the land was estimated at about 14 to 15 r. d. per Tönde-land; and the taxes, &c., amounted to 1,200 r. d., of which 900 r. d. were State, and 300 local imposts.

Falster is one of the most fertile of the Danish isles, and contains probably the best managed, and most productive estate in the whole kingdom. Mr. Tesdorpf, the proprietor, is well known as an advanced farmer of the advanced school, practically acquainted with all the details of modern husbandry, ready from his knowledge to appreciate all real improvements, and able and willing to carry them out on his farms as soon as he is satisfied that they are sound and suitable. His farming is upon a very extensive scale, having in his own hands and under his own direct management, no less than 2,386 Tönder-land = 3,252 acres, in tillage cultivation, with 250 Tönder-land = 338 acres, in permanent pasture, and 940 Tönder-land = 1,281 acres, in woodlands, chiefly oak and beech. The arable land is divided amongst five farms:

Ourupgaard which contains	1,016	Tönder-land
Kringelborg „	270	„
Gjedsergaard „	529	„
Frisenfeld „	291	„
Böttögaard „	280	„

The soils are chiefly strong alluvial loams, containing a good percentage of organic matter, with generally a strong marly substratum. The land lies pretty level, the maximum elevation of the surface, not exceeding 50 ft. above the sea level. This, how-

ever, gives an inclination quite sufficient for all the purposes of drainage which has been carried out gradually all over the estate.

Mr. Tesdorpf, like Mr. Valentin, believes in the importance and value of strictly-kept "Farm Accounts," and can turn to his "ledger" and give the debtor and creditor statement in produce as well as in cash returns, of every department of his farming since he came into possession of the property. From these sources Mr. Tesdorpf was able to reply to every enquiry in the fullest and most satisfactory manner, attaching the stamp of exactitude to his information, which the mere opinions even of the most scrupulous and honest could not give. The land has all been thorough drained. The cost of draining averaged 40 r. d., per Tönde-land, or about 3*l.* 7*s.* per acre. The drains were laid with pipes at a general depth of 4 feet,* and at 48 feet distances apart. The Kringelborg farm which is of a more argillaceous character than the others was drained 5 feet deep, with 36 feet intervals.

The estate is farmed on a seven years' rotation.

1st year, Bare fallow—two-thirds winter, one-third summer.
2nd „ Wheat.
3rd „ Barley or Oats.
4th „ Beans, one-fourth; Peas, one-half; Turnips, one-fourth.
5th „ Oats or Barley.
6th „ Seeds, mown and grazed.
7th „ Do. do.

This rotation has been found to succeed very well, and it allows a long interval to elapse between the recurrence of the same crop on the same land—a principle that should never be forgotten—a policy that cannot be questioned. The large area of permanent pasture which has been drained and improved, furnishes, with the seeds of the regular rotations ample keep for the large stock of cattle and sheep kept on the estate.

The use of artificial manures was only introduced on the farms a few years ago, now they are applied liberally, in conjunction with the farm-yard dung, to all the crops. The following are about the proportions in which manure is applied to the different crops. For winter corn—wheat and rye—14 loads of farm-yard manure with 4 cwt. of superphosphate, and 1 cwt. of Peruvian guano per Tönde-land. For the barley crop, 3 cwt. of superphosphate, ½ cwt. each of nitrate of soda and Peruvian guano. For oats, 4 to 5 cwt. superphosphate, and 1 cwt. of Peruvian guano. For beans, 3 cwts. of superphosphate and 2 cwt. of Peruvian guano. For roots, 4½ cwt. superphosphate, and 2 cwt. Peruvian guano. For beans and peas, 12 loads of farm-yard dung.

The superphosphate is all made on the farm. The average annual consumption of bones is between 350,000 and 400,000 lbs. weight; these are steamed and ground, and then treated with sulphuric acid (sp. gr. 1·52) at the rate of 35lbs. to each 100lbs. of bones. The cost of the manure applied, averages about 13½ rigs-dalers per Tönde-land under tillage crop.

The effects of thorough drainage and of a judicious and liberal application of manure on the produce of the land, may be seen

* The Danish foot is equal to 1.0298 feet English.

in the following returns, summarized from the detailed annual statement.

	Average corn produce 1850 to '54. Undrained.	Average produce for 1855 to '59. After draining	Average produce for '60 to '64 & artificial manure.	1865. Estimated produce.
	Tönder.	Tönder.	Tönder.	Tönder.
1. Ourupgaard ..	5,463	5,931	7,324	8,233
2. Kringelborg ..	1,624	1,726	2,293	2,643
3. Gjedsergaard ..	2,580	2,833	3,748	4,268
4. Frisenfeld ..	1,049	1,416	1,965	3,070

The wheat and barley are all sold; the rye is only grown for home use as a bread corn; beans, peas, and oats are all consumed on the farm. The principal object of the management is dairy farming, and two of the best farms are devoted to that object, the soils and arrangement of the others not being so suitable.

Five labourers are kept, on the average, for each 100 Tönder-land, besides a certain force of women and boys; at harvest time, additional hands are employed. The necessity for such help has of late years been considerably lessened by the use of reaping and mowing and haymaking machines. Two pairs of horses are kept for each 100 Tönder-land for the ordinary work of the farm. If the farm lies at a distance from the markets or shipping port an additional horse or two may be required for road work. The labourers are generally hired by the year or half-year. The single men live altogether on the farm; the married either live in cottages at the homestead, or in the neighbouring villages. The present rate of wages for single men ranges from 50 to 70 r. d. per annum (£5 10s. to £8). The married men living off the farm have about ½ r. d. (13½*d.*) per day. In harvest time they earn about double this sum. In all the best districts the rate of wages is gradually being raised. To most of the cottages a portion of land is attached, generally 2 to 3 Tönder-land. Those married men working regularly on the farm, who have no land with their dwellings have the privilege of obtaining a certain quantity of corn, butter, and milk of their employer at reduced rates,—in addition to which they receive fire-wood, medical attendance for their family, and schooling for their children, all free, besides that general consideration and those many little kindnesses which are rarely omitted when the relations between the master and his servants are properly understood by both.

In Denmark the ordinary labourers' cottages are good, comfortable, and very cheap, the rent, with about half-an-acre of garden ground attached, being only from 8 to 10 r. d. per annum. The men are free to work for whom they please, but, as a rule, they work on the nearest farm. There are altogether on this estate 114 cottages, with about 3 Tönder-land attached, and about 100 other cottages, with garden ground, but no arable land. The rest of the property consists of small farms, averaging 60 Tönder-land each (Böndergaard), which are let on the usual tenures.

The live stock on the several farms consists of 10 bulls, 368 dairy cows, 103 head of young stock, 90 head of feeding beasts, 2,353 sheep, and 310 head of swine of various ages, besides the horses already enumerated. The cows are all kept for milking purposes, and are all of the Angel breed. The sheep are coarse-bred Merinos; about 600 of them are breeding ewes, and about the same number of wethers, &c., ready for the butcher, are sent to market each year.

The wool produce of the flock averages 4 to 4½ lbs. all round. The fat sheep and cattle are generally sent to Leith, where they have averaged lately about 35*s.* per head for sheep (out of the wool), and £20 per head for cattle. The pigs are sent to Hamburg, where 235 were sold fat during the last twelve months, at an average price of 32 r. d. (£3 12*s.*) per head.

The entire herd of dairy cows are of the Angel breed. Mr. Tesdorpf considers that this breed gives a larger yield of milk in proportion to its size and weight, than any other breed. By judicious selection in breeding, and care and good feeding from the birth, his stock has acquired proportions and points far superior to what are usually to be met with in its native districts, and he is sanguine that in the course of a few years he will have secured a herd with milking qualities of a very superior description. The milk produce of each cow is noted daily, and the best milkers are put to the best bulls, and each year fresh heifer blood is bought in from the choicest stocks in Slesvig, and a fresh bull obtained from a well-known herd in Zealand. The cows are kept for half the year in the byres, and the other half in the fields, where they are tethered in the usual way until September, and then allowed to go loose. The strong feeding they receive in the byres during the winter, aided probably by the want of proper exercise, causes a rather large percentage to miss being in calf. The loss, too, by milk fever after calving is rather high, being about two per cent.

The general management of the dairy is on the most improved system; any improvements that are made, either in the manipulation of the materials or in the utensils used, are from time to time introduced. Besides the large staff of dairymaids and assistants, there is a small 3 horse-power steam engine to do all the heavy work connected with the dairy. It grinds corn, etc., for the cows, works the churns, and supplies steam for the preparation of the milk for cheese, and for cooking the food as well as warming the chambers of the persons employed in the dairy. The whey from the cheese vats is carried by means of a pipe direct from the dairy to the piggeries.

The following tabulated statement of the dairy returns made up for the four quinquennial periods specified (corresponding with the grain returns already given) not only testifies to the care and exactitude with which the "Farm Accounts" have been kept, but also gives an analysis of the dairy returns of a farm for a longer period, upon a larger scale and with a greater minuteness of detail than has ever before been published.

The Clear Profit of the Dairy is shown in the following Table.

Year.	Number of Cows.	Milk per Cow—Pots.	Money received for sold and used milk.	Butter Produce.		Pots of milk used to one lb. of Butter.	Received for Butter.	Cheese Produced.		Received for Cheese.	Received for Fat Cattle and Hides.	Received for Swine.	Renewal of the Stock of Cows and Heifers.	Gross Income after subtraction of the Contribution.		Dairy Expenses.	Clear Profit.		Fodder for Cows—*corn, bran,* and *oilcakes*—to the amount of	Fodder for Swine—*corn* and *bran*—to the amount of
				In all	Per Cow.			In all	Per Cow.					In all	Per Cow.		In all	Per Cow.		
1. Ourupgaard Dairy.																				
			Rdl. sk.	lbs.	lbs.	Pots.	Rdl. sk.	lbs.	lbs.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl, sk.	Rdl.sk,	Rdl. sk.	Rdl. sk.	Rdl.sk.	Rdl. sk.	Rdl. sk.
1850	200	1946	682 87	22,594	112 97	16 65	6180 68	27,920	140	1597 88	740 8	1486 55	726 28	9961 46	49 78	3078 68	6882 74	34 48	1041 40	559 40
1855	210	1828	1041 49	25,766	122·70	14 25	10003 38	30,634	146	2107 12	3126 44	4686 37	3451 10	17513 74	83 38	3579 20	13934 54	66 34	5709 90	2733 39
1860	216	2323	1213 6	35,534	164·51	13 66	15220 64	39,446	182	3578 32	1617 50	4038 33	2090 0	23577 89	109 15	4127 40	19450 59	90 5	5029 90	1222 68
1865	219	2382	1242 18	34,974	157·7	14 46	16623 41	46,291	211	4010 9	4337 48	5901 89	3256 8	28859 5	131 75	4779 7	24079 94	109 91	8536 48	2274 69
2. Gjedsergaard Dairy.																				
1865	108	2424	240 74	18,778	174·	13 92	8938 23	22,788	211	1919 19	1882 43	3047 82	1330 30	14698 19	136 9	2278 5	12420 14	115 0	4263 44	1419 76

After the Cows' Calving time, they have milked on the average as follows :—

Cows Calved.		October.	November.		December.		January.		February.		March.		April.		May.		June.	
Year	Cows.	Pots. per Cow.	Cows.	Pots per Cow.	Cows.	Pots per Cow.	Cows.	Pots per Cow.	Cows.	Pots per Cow.	Cows.	Pots per Cow.	Cows.	Pots per Cow.	Cows.	Pots per Cow.	Cows.	Pots per Cow.
1861	2	2,116	6	1,699	70	2,672	46	2,719	19	2,443	34	2,698	17	2,317	10	1,913	4	1,962
1862	2	1,908	10	2,006	55	2,647	47	2,762	29	2,518	38	2,330	14	2,540	5	2,069	5	1,846
1863	1	2,825	7	2,165	69	3,061	63	2,825	18	2,629	32	2,431	7	2,262	6	2,627	3	3,300
1864	5	1,879	1	2,858	73	2,786	57	3,175	29	2,822	30	2,559	9	2,646	3	2,857	2	3,045
1865	2	2,690	1	3,509	53	3,348	63	3,220	13	2,905	26	2,752	19	2,528	13	2,161	13	2,329
	Cows Calved	Milk per Cow.															Cows Calved	Milk per Cow.

After tabulating the dairy returns, the milking qualities of the cows are divided thus:—

Cows gave Milk.

Year.	Under 1,000 pots per Cow	From 1,000 to 1,500	From 1,500 to 2,000	From 2,000 to 2,500	From 2,500 to 3,000	From 3,000 to 3,500	From 3,500 to 4,000	Over 4,000 pots pr. Cow
1861	6	17	24	50	67	36	13	3
1862	9	15	36	44	69	32	9	4
1863	3	5	21	39	57	59	25	5
1864	6	3	22	29	56	62	28	13
1865	2	9	21	29	53	55	35	15

The several farms were arranged in their present shape about 20 to 25 years ago, and a regular though gradual system of improvement has been always kept up, so that although the nett proceeds are even now very satisfactory, there is fair reason for believing that they will continue to improve, as the main outlay for improvements has already been effected. The principal point for consideration now is to increase the working capital, in order fully to develop the resources and give full effect to the improved condition of the land—every increase in the capital invested having been followed by an increased ratio of profit.

The following statement of the receipts and expenditure on each of the farms for the past year (1865) is less satisfactory than it would have been had the crops not suffered so severely from the continued drought of that season. The wheat and rye crops everywhere were about 20 to 30 per cent. below the average; and the oats and seeds were also very poor.

RECEIPTS AND EXPENSES INCURRED IN THE MANAGEMENT OF THE FOLLOWING FARMS.

	Gross Receipt from Corn, Cattle, and Sheep.	Board and Wages for the Labourers.	Wages and Board to the Farm Bailiffs.	Expenses in carrying on the Dairies.	Workmen's Wages, Board, Materials, &c.	Taxes, tithes, &c. on the Farms.	Grass-seed, Clover-seed, &c.	Artificial Manure.	Bought Corn, Bran, and Oil-cake.	Various Expenses.	Expenses altogether.	Expenses per Tönde-Land.	Clear Profit.	
													Altogether.	Per Tönde-Land.
	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl. sk.	Rdl.sk.
Ourupgaard .	58,750 8	12,011 18	1,412 0	4,779 7	3,202 69	2,737 52	980 63	6,135 14	5,025 55	2,352 29	38,636 19	38 3	20,113 85	19 76
Kringelborg .	11,455 52	2,974 66	500 0	.. ..	4 6 82	1,061 8	269 54	1,420 48	597 6	249 32	7,536 8	27 90	3,919 44	14 48
Gjedsergaard	27,955 45	5,318 11	1,030 0	2,278 5	1,494 8	1,581 36	534 95	907 6	2,289 1	1,285 20	11,717 86	35 36	9,237 55	17 44
Frisenfeld . . .	10,859 81	2,384 95	400 0	.. ..	450 38	641 21	239 76	1,608 71	1,569 30	488 29	7,782 72	26 80	3,076 55	10 70

The cause of the great difference in the rate of nett profit on the several farms is accounted for mainly by the less profitable nature of the stock on the farms of Kringelborg and Frisenfeld, where sheep and feeding cattle are kept, and on the farms of Ourupgaard and Gjedsergaard, which are both worked as dairy farms. Mr. Tesdorpf has not been able, by breeding and feeding sheep and cattle, to obtain the same profit return per acre as from an equivalent herd of good milking cows.

The profit returns from the live stock kept on the two grazing farms average only 13 r.d. per Tönde-land per annum; whereas the return from the two dairy farms amounts to 28 r.d. per Tönde-land per annum. They are given thus:—

	R.d.	sk.	
Ourupgaard	27	74	per Tönde-land.
Gjedsergaard	28	76	„
Kringelborg	10	27	„
Frisenfeld	15	83	„

The small profit return of Frisenfeld, which really is a good farm, as shewn by the corn produce for the past year, appears to result from the comparatively unprofitable character of the stock (chiefly sheep) on the farm. Now that his "ledger," the true test of all well-managed manufacturing establishments, has proved this, Mr. Tesdorpf intends to take the matter in hand, and seek at once for some mode of improving these unfavourable figures, when no doubt the same good results which have hitherto followed his able management will not fail him. He has been already endeavouring to improve the carcase of his sheep, by using large and strong Rambouillet rams, and by high feeding during winter, but hitherto the results have not satisfied him. Still he is unwilling to give up the Merino breed, as he finds them hardy and able to thrive better on his rough pastures, than the ordinary sheep of the country. He intends also to try the short-horn cross with some of his best Jutland cows, in the hope of advancing the maturity and improving the quality of his feeding stock.

Modern agriculture may, I think, fairly lay claim to the possession of certain fixed principles or laws, the offspring of that union between science and practice, which distinguishes the farming of the present from that of former times. These *principles* are, or should be, applicable everywhere, in all soils, in all climates, and at all times; whereas practices may, nay must necessarily vary—the climate, soils, seasons, markets, all exert an influence over them, and must always more or less control them. Still practices to be permanently successful must be based upon sound principles; for a season they may be apparently disregarded, but this cannot be done with impunity; in the end the penalty will have to be paid, the amount of the penalty being determined by the amount of neglect shewn.

In regard to matters in which the principles of agriculture are involved, we may be inclined to speak more confidently than where practices only are concerned, and although it is never well to speak very dogmatically in regard to farm practices, I should not now

venture even to make any observations at all, had I not been especially invited to do so by those on whose farming I shall offer some remarks, and did I not feel that my criticisms are, to some extent, justified by the neglect shewn for those principles, which I believe to be necessary to a soundand philosophical system of farming.

In the returns, given at page 49, there are two points which at once arrest attention. It will be seen that while there are 1,962,183 Tönder-land occupied by tillage crops, the proportion under *root crop* is only equal to ·23, or not one quarter per cent. of the tillage area, and that 324,051 Tönder-land are left in *bare fallow*—equal to about one-sixth of the whole cultivated area. This amount of unproductive tillage land not only reduces the produce returns of the country by one-sixth—or say 16 per cent.—but it adds in a like proportion to the expenditure or cost of production for the actual crops. One-sixth is a large proportion for any country; even if we admit the necessity for any bare fallow at all, it ought to be limited to its smallest proportions in a country like Denmark where the soil generally is of the light free-working class of loams, containing more or less of humous matter, and particularly suited for a system of farming on a judicious rotation, in which *remunerative fallowing crops* shall take the place of *costly bare fallows*. Bare fallows, at the present day, must be looked upon as representatives of poverty of some sort—either of knowledge or of means on the part of the occupier,—or of condition in the soil thus treated. Even the strongest clay soils are now everywhere submitting to the influence of deep drainage, deep cultivation, and mechanical applications, and giving annual crops, increasing in their returns in a like ratio with the decrease in their cost, since the fallowing rotation has taken the place of the old bare fallow. When we see this antiquated practice still retained on the best managed farms in Denmark, we must expect that some special reasons can be adduced in support of a practice, which it is clearly contrary to the interest of the individual as well as of the general community should continue, unless strong and sound evidence can be adduced in its favour. On more than one occasion I was told that it was necessary for the purpose of cleaning the land. The change suggested in substituting a *fallowing rotation* for the bare fallow would secure this in a far more effective and satisfactory manner.

There is but little doubt that the dirty state of a very large proportion of the land under tillage cultivation is due to the system of cropping usually followed, which is entirely opposed to the principles upon which a sound rotation should be based, and which in practice appears to be far poorer in those results which the Danish farmer desires to secure, than they might be were his system changed and his practices improved. His main object is to manufacture meat and milk—animal rather than vegetable produce. Let us see how the present rotations followed will compare in their results with other rotations that might be

introduced, which would be equally suited to the soils, and at the same time in accordance with those principles which we advocate but which are now so little attended to.

We cannot do wrong in taking the rotations followed on the farms already described for our comparison, as they represent the best management in their respective districts. On each we find the bare fallow adhered to; on each we find two or three straw crops following each other; and on neither do we find any crops save on the most limited scale, representatives of those root or fallowing crops, which have led to such satisfactory results in our own and other countries. We are accustomed to base our calculations of the meat producing capabilities of our farms upon the quantity of green crops they can produce; and what is true in regard to meat is equally so in regard to milk; experiments and experience have shown us that they bear a certain known ratio to each other. If this rule were applied without any modifications to the Danish rotations, the result would be very small and unsatisfactory indeed; we may, however, take the straw produce of their grain crops into our calculation, as having the same food value as the green crops, since chemistry has shown us that it is far more profitable to use the straw as fodder than merely for litter purposes. Allowing 30 cwt. of straw per acre for the grain crops, 10 tons per acre for seeds, and 20 tons per acre for roots, we should find that the Marselisborg rotation would produce at the rate of 106 cwt. of green food per acre per annum; that the Lillerup rotation would yield about 120 cwt. of green food per acre per annum; that the Gjeddesdals' rotation would give 85 cwt.; and the Ourupgaard rotation about 88 cwt. of green food per acre per annum. The meat equivalents for these several amounts of fresh food may be taken at 78 lbs. for Marselisborg; 90 lbs. for Lillerup; 63½ lbs. for Gjeddesdals; and 66 lbs. for Ourupgaard per acre per annum.

Now let us turn to the four, five, and six years' rotations of our own modern system of husbandry, which combine the principles of fallowing with full facilities for the practice of cleansing the land, while at the same time they return a larger yield of food materials for the stock, which reacts upon the fertility of the farm by the increased amount of manure produced. Take the four years' rotation for the lighter, and the five and six years' rotation for the heavier classes of soils. The four years' course consists of roots, barley, clover, wheat. The five years' rotation consists of roots, barley, clover, clover, wheat; and the six years' consists of roots, barley, clover, wheat, beans, wheat. In these rotations each crop differs in its natural habits and requirements from that which precedes and that which succeeds it, and thus acts chemically as a fallowing agent, while the recurrence of a root or other wide-drilled crop at short intervals, gives ample opportunity for keeping the land clean, and thus frees the surface from the weeds which not only appropriate the food but otherwise check the growth of the cultivated plants.

Taking the same produce returns per acre as those already given, we should find that the four years' rotation would give us

an amount of green food of 160 cwt. per acre per annum, equal to the production of 120 lb. of meat per acre per annum; that the five years' rotation would yield about 170 cwt. or equal to 125 lbs. of meat per acre per annum; and that the six years' rotation, suitable for the strongest soils in Denmark, would give a return of 120 cwt. equal to the production of nearly 90 lbs. of meat per acre per annum. These appear to me to be matters worthy of the consideration of the gentlemen whose farming I have thus ventured to criticise. I need not assure them of the friendly feeling which dictates it, or ask them to receive it in the same spirit, as I am sure they will value honest and friendly criticism far more than indiscriminate praise. If they on investigation are satisfied with my figures, and will endorse the changes I suggest, their brother farmers I am sure will soon follow in their wake, the costly bare fallows of their present rotations will gradually disappear, and in a like manner will their produce and their profits increase.

In the foregoing statements and comments upon the character and condition of Danish agriculture, there are certainly two points which claim our consideration, as they bear directly upon our own interests; the one is the management of their dairies, the other their surplus produce of stock. In regard to the quality of their dairy stock generally, I think that in all probability it would be improved by a judicious introduction of some of our blood—Short-Horn,—Ayrshire,—or Jersey. In the management of all their leading dairies the old arbitrary "rule of thumb," which still holds sway over too many of ours, has entirely disappeared, and a philosophic treatment, based on sound scientific principles, is the rule and not the exception. The experiments quoted testify to its advantages. The dairy now, instead of, as of yore, being the abode of ignorance, and often too of superstition, is the centre of an enlightened and regular manufacture, where certainty replaces chance, and where the waywardness of the dairymaid is checked and controlled by the daily account she has to give of the produce committed to her, while her skill and attention are encouraged by the registered returns. When Mr. Friis showed me his "Dairy Register Sheet," (see page 79) I expressed my fears that any attempt to introduce such an elaborate system of analysis into the dairy farms of this country would have a very serious mental effect upon our dairymaids, which would at once stop our proceedings. He replied that on first showing it to his own head dairymaid she burst into tears, and continued in a very distressed state of mind for a full week afterwards. As she regained her composure, a few figures were seen chalked on the board; these rapidly increased, until they reached the last column, when she acknowledged freely the value of the daily details, which testified to her own skill while recording her dairy returns, and declared that she would never take the management of any other dairy unless she had the comfort and protection of a similar arrangement. From that day the success of Messrs. Friis and Segelcke's "Dairy Register" was assured, and it is now finding its way into all the best dairies of the country. In our

ordinary manufacturing establishments, even where there are none of those elements of disturbance which always exist more or less where primary organic substances are manipulated, as in butter and cheese making, such analyses of results are sought for and valued. Would it not be well, then, for us to introduce them (in a modified form, perhaps, suited to our different requirements) into our own dairies, where too commonly practices are quite independent of principles, where figures are eschewed, and the "reign of law" all but unknown.

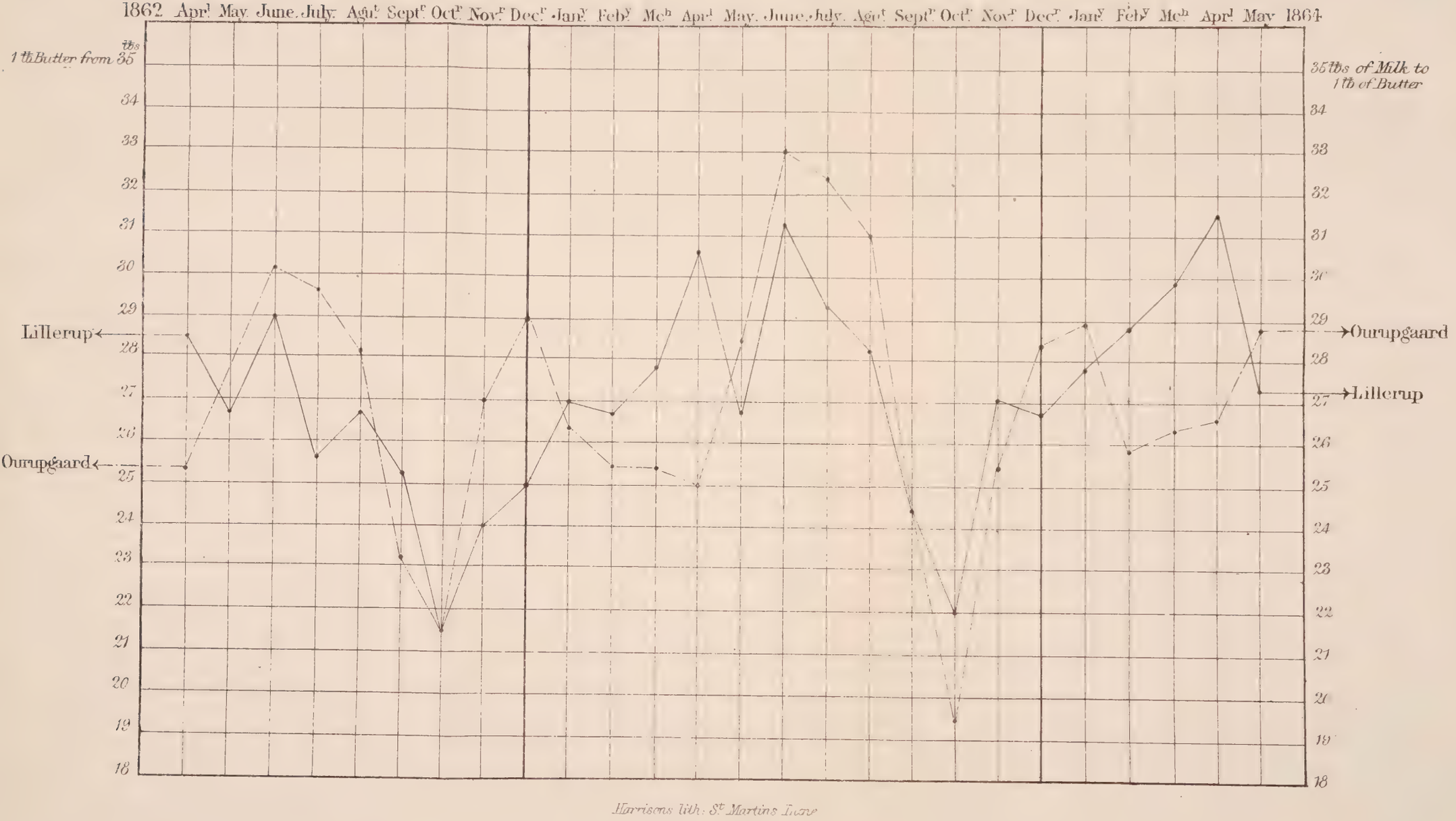
The farm establishments of the larger proprietors form quite little colonies in themselves. The dwelling-house is necessarily of capacious size, and is replete with every comfort and convenience, while the same roof shelters not only the master and his family, but also his numerous dairy and farm dependants. The single men live in the house, the married have cottages at the homestead, and in most cases have certain daily rations of food allowed to them. Those who live in the house have meat four days in the week, and about 1 lb. of butter and 1 lb. of cheese per week each. Beer is given at the rate of about 150 gallons per head per annum. The annual cost per head depends mainly upon the housekeeper, and ranges generally between 100 and 120 r. d. per annum. In addition to their keep, they receive from 60 to 70 r. d. for their labour. The head dairymaids live in the house, and receive from 120 to 150 r. d. a-year; they are allowed also to take one or more pupils, according to the size of the dairy, with each of whom they receive a fee of 20 r. d., which is paid by the Royal Agricultural Society. These pupils superintend the milking, and take part in all the dairy manipulations. The milking, cleaning, and general labour of the dairy is done by a staff of women helpers, at the rate of one for each 20 cows in milk. The cows are kept for the six winter months in the byres, and for the rest of the year (May to October) in the field. The general practice is to picket them singly over the field, shifting them from three to six times each day, as the keep may render necessary, and leading them to water twice or thrice a-day. On some farms, as at Ourupgaard, they are kept picketed until September, and then allowed to run loose; but very rarely indeed is the practice which I saw at Gjeddesdals followed, of allowing them to wander over the pastures and graze at will; and yet that would appear the more rational treatment, as a forced exposure to the sun and blasts of a variable climate without shelter or the means of protection from insect annoyances, must, more or less, affect an animal's comfort, if not its health, and thus disturb its natural secretions. In either case, whether picketed or loose, they are always attended by the herdsman, who has the entire charge of them.

The cows are milked for about 10 months after calving; the milking takes place twice a-day, at about 4.30 A.M. and 4.30 P.M. The calves are sold as soon as dropped, at an average price of 2 r. d. each; a few of the best bred being retained to keep up the stock. In the winter, the milk is allowed to stand from 24 to 26 hours, it is then skimmed, and the butter made from the cream.

TABLE

showing the proportion of Butter in Milk during the different Months of the Year

The experiments were conducted on the Farms of Lillerup (Jutland) and Ourupgaard (Falster) for 26 successive months, - from April 1862 to May 1864 inclusive.



Harrisons lith: St Martins Lane

In the summer, the milk is churned fresh, and always gives a better return both in regard to quantity and flavour of butter than when made from cream. It is usually tubbed at from 18 to 24 hours after it is made. Cheese is made from both the skimmed and the churned milk, the refuse portions being conveyed to the hog pens. It is generally made twice a-day in summer, and once in winter; and in winter, both the cheese and the butter are colored with annatto. The cream or milk for churning is generally set at 56° to 57° Fahrenheit in summer, and at 61° to 62° Fahrenheit in winter; the increase in temperature during the operation is about 4° in summer, and from 2° to 3° in the winter.

The quality as well as the quantity of the milk is a matter of consideration to the farmer. In Mr. Tesdorpf's returns (page 70) is shewn the practical bearing of the latter in the classification of the cows according to their respective yields. The tabulated returns of the Lillerup and Ourupgaard dairies during a continuous period of 26 months, as recorded in the accompanying diagram, shew the variation in the quality of the milk at different periods of the year, and also the proportion of milk required for each pound of butter produced.

(*See Diagram facing this page.*)

Until within the last few years, the dairy management in Denmark was much the same as it existed a century ago. The whole subject, however, in its theoretic as well as practical bearings, has recently been submitted to the test of experimental enquiry, which has rescued it to a great extent from the darkness and uncertainty attending its operations. Foremost in this good service were Mr. Friis and Mr. Segelcke,—the former testing and proving practically at Lillerup the value of the principles laid down and explained by his friend and fellow worker. Thanks to these enlightened men, the thermometer has now the post of honor assigned to it in the dairy, for the dairy farmer knows well the important bearing it has upon his breeches pocket. In a pamphlet recently published by Mr. Segelcke,* on the Theory and Practice of Dairy Husbandry, it is shewn that—

1. The quantity of butter obtained by churning is dependent on the temperatures used.
2. The temperature that gives the best result, differs according to the quality of the cream (more or less old.)
3. At any temperature, higher or lower, the proportion of butter obtained is diminished.
4. A considerable percentage of butter, which otherwise might be obtained, is lost when the churning is not so regulated. This loss may often be very large, as a difference of only 2° F. may result in a loss equal to 4 per cent., whereas where the thermometer is not regularly used, the temperatures frequently vary to the extent of several degrees.

* Meddelelfer vedrörende Meierivösenet, &c., &c. Kjöbenhavn, 1865.

The quality is also directly affected by the temperature at which the cream or milk is set, and its increase during the operation of churning.

The following results of experiments carried out at Lillerup show practically the bearing that attention to temperature has upon the produce obtained.

Influence of Temperature on Churning (Lillerup).

Sets of double Experiments.	Temperature in degs. Fahrenheit at		Quantity Churned in lbs.		Butter produce in lbs.	For 1 lb. of Butter there was required.		Time occupied in Churning.	Therefore 1 lb. of Cream gave the same results as 5½ lbs. of Sweet Milk.*	
	Commencement.	End.	Milk.	Cream.		Milk.	Cream.		Sweet Milk used to 1 lb. of Butter.	Percentage proportion of Butter obtained.
								Min.		
1	55¾	60½	284·90	35·10	22	12·95	1·60	105	21·75	100
	60½	63	306·72	37·28	22	13·94	1·69	43	23·24	93·6
2	56¾	60½	333·36	31·37	24½	13·20	1·28	105	20·24	100
	60½	63	321·59	31·18	23½	13·68	1·33	39	21·00	96·4
3	56	60½	343·17	22·36	21¼	16·15	1·05	104	21·92	100
	60½	63	347·32	22·63	21	16·54	1·08	68	22·48	97·5
4	56⅒	60½	340·94	22·53	20¾	16·43	1·09	113	22·42	100
	60½	63	340·56	22·47	20	17·03	1·12	45	23·19	96·7

The results of each of these four double trials shewed that a less proportion of butter was produced from the milk or cream when the temperature at the end of the churning was 63° than when it was 60½°; thus the difference of a single degree (Réaumur)† was sufficient to affect the butter yield to the amount of from four to five per cent.

The average produce of butter obtained may be taken at 1 lb. of butter to about 30 lbs. of milk. In dairies such as those of Lillerup, Gjeddesdals, and Ourupgaard, and others under like management, the proportion is more satisfactory.

* This proportion is the mean of a series of trials that were undertaken at the same time as the churning experiments.

† The temperatures are all registered in Denmark according to the Réaumur scale, which bears the proportion of 4 to 9 to Fahrenheit, between the freezing and boiling points.

Month.	Cows kept for the Dairy.								Yi
	Cows.			Cows.		Total.			I
	Calved.	Slipped.	Dried.	Set in.	Culled out.	Milk-giving.	Dry.	Total.	Morning

Month.	Salt.									Th
	Lyneborg for salting butter.	Common salt for salting cheese.	Total Produce.			Household.				
			From the cheese press.							
	lbs.	lbs.	Number.	cwt.	lbs.	Number.	cwt.	lbs.	Number.	

THE DAIRY AT FOR THE MONTH OF 186 .

Day	Date.	Cows kept for the Dairy. Cows: Calved	Cows: Spayed.	Cows: Dried	Total: Cows in Milk or Calf	Total: Cows Milking	Total: Dry	Yield of Milk. lbs. of Milk: Morning	Night	Total.	Yield of milk according to the weight of milk each cow was found to give by test milking. lbs. of Milk: Morn.	Night.	Total	Cheesemaking. lbs. of Milk used: New Milk.	Skim Milk.	Butter Milk.	Total.	Temperature at which the rennet was put to.	Cheese made. No.	Numero	Wight. lbs.	Buttermaking. lbs. of Milk and Cream used. New Milk.	Cream.	Total	lbs. of Butter.	Temperature by churning. At the beginning.	Highest temperature.	Time used in churning.	The butter was laid down. In cask.	Numero.	Gross weight.	Tare.	Remarks.

Day	Date.	Household. Cream. lbs.	lbs. of Milk. New Milk.	Skim Milk.	Butter Milk.	Cheese. No.	Numero	lbs.	Butter. Cask.	lbs.	Total.	Calves reared for Dairy purposes. New born Calves.	No. of new born Calves added.	lbs. of Milk. New Milk.	Skim Milk.	Butter Milk.	Whey. lbs.	Fattening Calves. No. of new born Calves added.	lbs. of Milk. New Milk.	Skim Milk.	Butter Milk.	Whey. lbs.	The Swine. lbs. of Mil New Milk.	Skim Milk.	Butter Milk.	Whey. lbs.	Temperature. Degrees of Réaumur. For the Milk inside: Morn. 6 o'cl.	Noon 2 o'cl	Outside. Morn. 6 o'cl.	Noon 2 o'cl.	The Milk set up for Cream. No. of 12 hours unto skimming.	lbs. of milk in each milk pan.	lbs. of Milk used to 1 lb. of Cheese.	lbs. of Milk

SOLD FROM THE DAIRY.

Day	Date.	Cream. lbs	lbs. of Milk. New Milk.	Skim Milk.	Butter Milk.	Cheese. No.	Cwt.	lbs.	Butter. Cask.	No.	Gross Weight.	Tare.	Neat Weight.	New born Calves.	Remarks.

GIVEN AWAY FROM THE DAIRY.

Cream. lbs.	lbs. of Milk. New Milk.	Skim. Milk.	Butter-milk.	Cheese. No.	wt.	lbs.	Butter. lbs.	New born Calves.	Remarks.

The importance of duly registering the daily produce of the dairy, and thus establishing a system of comparison and checks in each department, was too obvious to need much persuasion to ensure its adoption as soon as a form of register was devised that should comprise all the points on which information was desired. The two forms of register now given,* the one for daily entries, the other giving the monthly summary, were arranged by Messrs. Segelcke and Friis; the returns already given of Mr. Tesdorpf's dairy operations shew how efficiently they fulfil their intended object.

(*See annexed Tables.*)

The dairy working arrangements are generally good. The churns are necessarily of large capacities, generally in wood, and worked either by horse or steam power. At Valbygaard, near Slagelse, a new dairy has recently been erected, in which the shallow rectangular pans or trays in enamelled iron that received so much notice at the Exhibition of 1862, are used to contain the milk. There were 48 of these pans, each 9 × 3 feet, arranged in 6 rows of 8 each. The cream was readily and rapidly removed from the surface by means of a light wooden rake carried upon two small wheels which travelling on the parallel side edges of the pans or trays, enabled the rake to sweep over their entire surface. The dip of the rake into the pan was regulated by a simple mode of adjustment. When the cream was all removed the end of the trays was slightly tilted so as to discharge the skimmed milk into an open trough at the other end, which conveyed it direct to the cheese tubs, whence it passed out in the shape of whey to the piggeries. The dairy herd on the farm consisted of 170 cows.

As it is not the practice in Denmark to stack the cut grain as with us, a sufficient barn capacity is a necessary part of a farm establishment. One of the best and largest that I saw was at Valbygaard. The dimensions were 240 feet long by 48 feet wide, and 60 feet high without a single upright or cross beam to interrupt the space. At Gjeddesdals also the barn was of very large proportions.

A comparison between the dairy management and produce of our own country with that of Denmark, would be valuable to both countries, if the data of both were equally reliable. But unfortunately this could not be ensured, as, with a few exceptions, we are not in possession of any dairy statistics that we could offer for comparison, and those even are too limited in their details to justify a verdict on either side. The following returns from our own dairy records, however, may interest the Danish farmers, and perhaps induce a more general attention to selection and care in breeding, as adopted by Mr. Tesdorpf, and perhaps also the introduction of foreign blood, possessing milking properties, to cross with the best of their own. These returns are, no doubt, to be relied upon, as far as they go,—still they must be only taken for

* These are printed and published by P. G. Philipson, Copenhagen.

what they are worth—the milk produce of certain dairies on a comparatively limited scale.

Our principal dairy breeds are the Ayrshire,—the Channel Islands,—the Short-horn,—the Suffolk,—and the Kerry. Some published returns of two dairies of Ayrshire cows give the annual milk produce per cow at 650 and 632 gallons respectively. Three returns of dairies consisting wholly of short-horns shew a produce of 540 gallons, 630 gallons, and 765 gallons respectively, or an average of 625 gallons per annum for each cow. In two dairies where half-bred short-horns were kept, the yield was 810 and 866 gallons respectively for each cow. In four dairies in Ireland where pure Kerrys and crosses with short-horns and Ayrshires were kept, the annual produce per cow was returned at 500 gallons, 600 gallons, 675 gallons, and 740 gallons, respectively; or an average, on the four dairies, of 630 gallons per annum for each cow. A dairy of "pure Kerrys"* gave an average of 488 gallons per cow, and another of the larger Irish breed gave an average of 583 gallons per head per annum. In the great London dairies, now well-nigh extinguished by the ravages of the Cattle Disease, these returns are greatly exceeded. The cows kept are large framed Short-horn and Yorkshire crosses, which by good feeding bring the returns up to nearly 1,000 gallons per annum for each cow kept. The custom in these establishments is to dispose of a cow directly her milk falls below two gallons a-day, and buy another in her place.

The following milk return of one of our best managed dairy farms (Frocester Court) shews the relative produce of cows in the successive years of their milking. The first lot were bought in at two years old; all the others at three years.

No. of Cows.	Year of Milk.	Produce per head.
8	1st	317 gals.
15	1st	472 „
14	2nd	535 „
15	3rd	616 „
20	4th	665 „
18	5th	635 „
9	6th	708 „
15	Old	651 „

The maximum reliable milk produce that we have recorded was that of a single cow belonging to the keeper of the gaol at Lewes, the details of which were authenticated by the Board of Agriculture. In eight consecutive years she gave 9,720 gallons, or at the rate of more than 1,210 gallons per annum. In one year she milked 328 days, and gave 1,230 gallons, which yielded 540 lbs. of butter, or at the rate of 1 lb. of butter to 22¾ lbs. of milk. In the early part of the present year (1866) a return was published of the produce of a cow in a Vermont (U. S.) dairy, which was stated to have given, in the previous year, a butter yield of 504 lbs., at the rate of 1 lb. of butter to 20 lbs. of milk.

Quite recently too our Agricultural Journals have recorded

† A remarkably small native Irish breed.

the butter produce of an Ayrshire cow at 399½ lbs., in the 10 months between calving (March 10, 1866, and January 10, 1867), besides supplying the family with milk and cream; and of another cow of the same breed which has supplied the owner's family with milk and cream, and given for the past three years, 1864-5 and 6, respectively, 269 lbs., 282½ lbs., and 274½ lbs. of butter.

The proportion of butter varies with the season and with the breed of the dairy cows; the milk of the Ayrshire cow is generally richer in butter than that of the short-horn or Suffolk, but this again is not so rich as that of the Kerry or Channel Islands breed. As a rule it has been found that the best returns have been obtained in the later summer or early autumn months, when we have returns of 1 lb. of butter to 20 lbs. of milk (Ayrshire breed); 1 to 19 (breed not stated); 1 to 19½ (Irish breed); 1 to 18½ (Ayrshire); 1 to 17½ (Ayrshire); 1 to 16½ (pure Kerry); and even 1 to 16 (Short-horn), this latter, no doubt, was under exceptional conditions. In all probability the average butter yield of our dairies is about 1 in 30, ranging between 25 to 35 lbs. of milk to 1 lb. of butter.

Some few months ago it was remarked in a leading article in one of our leading agricultural journals,* that "there can be no doubt that the present restrictions on the foreign cattle, whatever useful purposes they may serve, are doing English agriculture a great deal of harm. Live stock, which is what our farmers want to buy, is at an outrageously high price, and the enormous imports of fat meat from abroad are completely revolutionizing the trade in fat beasts, which is what they have to sell. The value of that which the English farmers have to sell is thus artificially depreciated, while the price of that which they want to buy is artificially exaggerated. If the store stock of other countries were available for our farmers as their fat stock is for our butchers, we should retain a fair proportion of that artificial premium, which the Orders in Council are now putting into the pockets of foreign feeders. As the matter now stands, the English feeder is placed at a very great disadvantage." And again, quite recently, the subject has been mooted, and the same want thus expressed. "The great difficulty lies in the question of store stock; how and where are we to obtain the proper supply of beasts, and under what restrictions?"

If we turn to page 51, we see that the surplus animal produce of Denmark comprises amongst other stock nearly 40,000 beasts, and between 500 and 1,000 calves. Although this country has long been the market for Danish farm produce, the present restrictions on the import of live stock, which draw no line between infected and non-infected countries, limit the trade between the two countries to fat stock, and thus force the export trade in store cattle into other channels.

The condition of Danish farming is not at present equal to the feeding of all the surplus cattle produce of the country. Last year 5,300 fat beasts and 60 calves were all that we received, the

* Agricultural Gazette for October 4th, 1866.

rest were sold in a store condition to Hamburg, Holstein, &c., where they were fed, and thence found their way, fattened, in all probability, upon Danish oil cake, to our markets—an intermediate agent thus reaping the profits that ought to have been shared by the producer and consumer. This disturbance to the trade between our two countries tells heavily just now on the interests of both:—the present effects are of most importance, perhaps, to Denmark, the future to us. I was informed, on reliable authority, that Denmark could export at once at the rate of 40,000 store beasts per annum, with a probable increase, if the trade answered, of 10,000 each year, and with these could be sent the surplus stock of upwards of 3,000 tons, per annum, of oil cake. The interest of the Danish farmers clearly is to consume their cake at home, and send us over fat instead of store stock;—ours is to take their store cattle and their cake, and from the two manufacture our own butchers' meat, finding our principal profit returns in the beneficial consumption of our roots, and the value of the resulting manure.

The risk of infection from Denmark is reduced to a minimum. The geographical position of the country isolates her well-nigh as perfectly as our own—while at the same time her surplus produce going outwards diminishes the chance of any imported disease. The existing regulations, too, of the Government are of the most searching and stringent character. It is understood that any additional restrictions will be placed, in regard to both import and export movements of stock, that may be considered desirable to ensure perfect safety to the cattle trade between our two countries. Can no measures be devised to meet this unsatisfactory state of things? Can no regulations be framed that will allow us to buy, and Denmark to sell, what we mutually want, and thus benefit both countries without increasing the risk to either?

The great disparity of numbers, and consequently of influence, between the large and the small owners or occupiers of land (see page 48) in Denmark, no doubt checks, to a great extent, public progress, and renders the introduction of any new measures, even for the advancement of their own interests, more difficult than it would be were the balance of power more equal, or were it indeed reversed, and placed in the hands of a better educated and more enlightened class. Good evidence of this obstructive influence may be seen in the management of the highways, and in the absence at the present day of grain markets throughout the country. The repairs and sustentation of the roads are still left to the occupiers of the land through which they pass, who perform their duties more or less efficiently, but always, if a strict account were kept, at a greater cost to themselves and less comfort to the public than if a rate were levied, and the work efficiently done under proper supervision and by a competent staff.

Then Denmark has, properly speaking, no regular grain markets, as the term is generally understood, anywhere except

in Copenhagen, where the grain is brought in carts to the great market place—Gammel-Torv,—and is there sold from the carts, and removed with considerable inconvenience and trouble to both buyers and sellers.

In order to remedy this deficiency an attempt was made last year, by the Royal Agricultural Society, to establish a regular Farmers' Exchange (Landmanns-Bors) at Copenhagen, for the sale of grain, seeds, oil cakes, manures, &c. This however was too evidently a movement in favour of the farmer. The old establishments of the Gammel-Torv at once saw that if successful it would interfere with their share of his profits, and opposed it vigorously; the farmers themselves gave it but a lukewarm support, and the undertaking had soon to be given up. The practice of the farmer is to bring his grain in on the regular market days (Torvedage) to the different market towns, and take it direct to the dealer, to whom he sells it at what is termed the market price of the day, and from whom he, at the same time, gets accommodation for his horses and wagon, and is supplied with breakfast and dinner and all kinds of refreshments, &c., for himself and family, free of any apparent cost! At the same time he buys his groceries, clothing, timber, and many other necessaries of the said dealer, who generously provides him liberally with spirits and tobacco while making his purchases. The main object of a general provincial merchant in Denmark is to make a large connexion with small farmers and peasant occupiers, he is then sure of a large and lucrative trade. In many of the market towns the prices to be paid for grain, I was informed, are *fixed the day before the market day*, by a *selected committee of the grain-dealers themselves*, though these very committee-men, it is said, are often the first to give a higher price, if it suits their purpose on the market day. Some little attention seems to be paid to the weight and quality of the grain, but this is as often entirely overlooked by both buyers and sellers, according as their desires or necessities may affect the business to be done. The large proprietors and farmers never bring their grain to market in this way; they sell from sample to the dealer only when the state of the market price tempts them, or they require the money for the purposes of their farm.

The absence of any regular markets with the open competition of honest and legitimate trade is certainly a great drawback upon the Danish farm system; the present system demoralizes both sellers and buyers. The sellers are kept as far as possible in ignorance of the real value of their produce by the costly bribe of personal enjoyments, and they miss the advantages of weekly contact and market friction with their fellows, while they have at the same time to take the goods they require in return, of the quality and at the price that the dealer chooses to give them. The dealer's craft is to buy the farmer's produce as cheap, and to sell his own goods as dear as he can—and, thanks to the influence of the bribe he offers, he is generally successful in both accounts. Even the large proprietors and farmers themselves are prejudiced by the close market system, as they are often induced to hold

their grain produce on and on, in the hope of a higher price, which may or may not be got. They thus become speculators in corn, while their legitimate business of farming may be suffering for the want of that ready cash which regular sales in an open market would have supplied.

In submitting this Report on the Exhibition of the Royal Danish Agricultural Society, I have endeavoured to give a short sketch of such of the more prominent agricultural features of the country as the limited time at my disposal would permit. These, though very imperfectly described, will, I trust, help to make the farmers and the farming of both countries better known to each other,—to direct attention to their strong as well as their weak points; and thus subserve the interests of both.

The next great Meeting of the Society is to be held, I believe, at Copenhagen in 1869. As that will be the Centenary Commemoration of the foundation of the Royal Agricultural Society, no exertions will be spared on the part of Denmark to ensure a successful meeting. If an invitation be then again given to foreign farmers to take part in the proceedings, it is to be hoped that ours will not be laggards in accepting it. The agricultural conditions of the two countries seem to be to a great extent complementary to each other,—the more we know of each other's wants and requirements, the better able shall we be to supply them.

JOHN WILSON.

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